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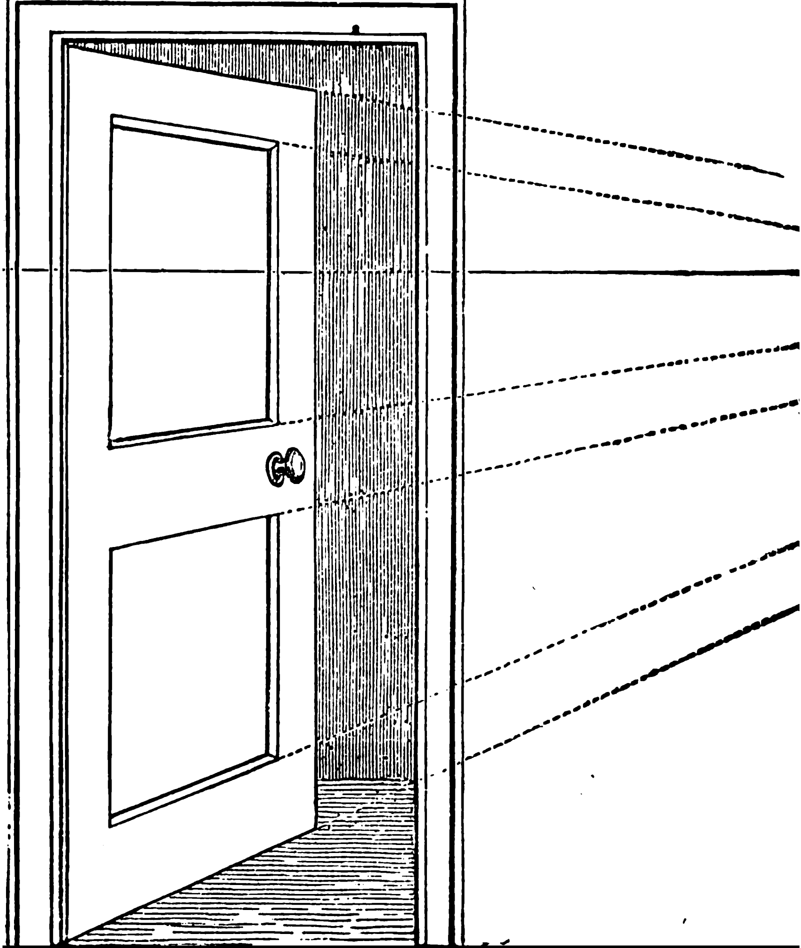

Pleasant pages for young people; or, Book of home education and ...

Samuel Prout Newcomb

KD 13263

PLEASANT PAGES

FOR

YOUNG PEOPLE;

OR,

Book of Home Education and Entertainment.

BY

S. PROUT NEWCOMBE.

"PLEASANT WORDS ARE AS AN HONEYCOMB."
PROV. XVI. 24.

With Numerous Illustrations.

BOSTON:
GOULD AND LINCOLN,
59 Washington Street.
1853.

KD 13263

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AMERICAN EDITION.

PUBLISHERS' ADVERTISEMENT.

THE pages which are here reproduced for the pleasure and profit of young people in America are, as the title indicates, intended as an aid to HOME EDUCATION. They require the agency of the parent or teacher to make them most profitable, though well fitted, without such assistance, to interest and benefit young readers. Designed for English pupils, they contain some things peculiar to that country, and of course will seem somewhat foreign to our thought and observation; but yet they are of such an unimportant nature, being confined almost entirely to simple modes of expression, as not at all to detract from its interest or usefulness to the American reader.

The work belongs to a class of books, now happily less rare than they were a few years ago, which aim rather to *reconcile* pleasure with useful instruction than merely to *mingle* them. A necessary quality of such a book is, that the information communicated shall be authentic, the scientific expositions accurate, the moral tone just, the style fitted to form a pure taste. In these respects, the American publishers feel authorized to believe that they are introducing to families and individuals a work entitled to confidence; and they have been encouraged to issue it by the commendations of gentlemen whose experience as instructors and as scientific men gives value to their testimony. The great variety of subjects presented, and withal so skilfully treated as to make "truth simple" and attractive, renders it an admirable family book for summer days and winter nights. The lessons on drawing, alone, offer to the young learner an easy introduction to a source of almost inexhaustible pleasure and of permanent benefit. To cultivate habits of observation and thoughtfulness; to lead the tender mind to a knowledge of the works of God in nature and providence, and of his moral laws, as written in the structure of the soul and affirmed in the pages of revelation, — these are within the province peculiarly of *home* education, and deserve to be more diligently attended to in that primary school of which all are pupils. The present publication is tendered as an auxiliary to this object. And should the present volume prove successful, the publishers have made arrangements for a series of volumes by the same author.

PREFACE.

THE aim of "PLEASANT PAGES" is, THE FOUNDATION OF GOOD MORAL AND INTELLECTUAL HABITS IN THE RISING GENERATION. In order to this end, it will endeavor to exhibit to the young the wondrous goodness and wisdom of the Creator in his works, and to excite within them a longing for the highest moral excellence. In attempting another of the higher objects of education, — the development and training of the mind, — it will lead children to observe minutely and accurately, to reflect slowly, and to compare and generalize carefully. Whilst presenting to them much solid information, it will open to their senses *new* fields of observation, and, by rendering instruction pleasing and attractive, will aim to form a taste for reading, and a desire for knowledge.

These objects will be dear to all who love children. They will be dearer still to those who possess the interesting responsibilities of a parent; and to such the author of "PLEASANT PAGES" would earnestly present his work.

All the *time* asked for so important a design is *ten minutes a day*. The book, if regularly read by the parent to his child, at their morning meal, would render him his "DAILY INSTRUCTOR." It would, every morning, supply the child with a new idea, and set his mind in motion for the day, promoting its exercise and growth. May it thus become a familiar and welcome guest; looked for and required by children as much as they require their "daily bread;" and may the author be allowed the privilege of assisting parents in their most sacred function — the training of their offspring; a system of training which shall implant truth in the spring time of age, that it may take root; which shall, in cultivating the mind, so refine its perceptions, and exercise its higher powers of reason and judgment, that it shall truly *grow;* and, above all, shall aim to *form the character* of the child, quickening the desire for moral excellence, and teaching that God is in all things, and in us. When such training shall have been realized, and we shall have placed, in their degrees of importance, the formation of the mind above the furnishing of the memory, and the formation of the "character" above the formation of the mind; then, and only then, will the retrograde progress of error be staggered by the onward progress of truth.

In order to make the work extensively useful, it is published at a price which will require a very large sale to protect the publishers from loss. He would therefore venture to ask all parents, who may approve of its details, to aid in its circulation.

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PLEASANT PAGES

FOR

YOUNG PEOPLE.

1st Week. MONDAY. Introduction.

Papa. Lucy, Willie, Ion, and Ada! come here, I have some good news for you.

Lucy. Pray, papa, let us hear it.

Papa. Do you remember the Infant School, where your mamma and I once taught so many children?

Lucy. Yes, and the children too, who were so happy.

Papa. Now, I have been thinking that you would like to hear some of their lessons; for, in these times, the poor children of England often learn more in their schools than you do.

Lucy. I'm sure we should like such lessons; I want very much to learn about some *animals.*

Willie. And I should like to learn about some *new countries*, and to hear some more *History Tales.*

Ion. And I want to learn Drawing.

Papa. Well, you shall learn all these things. Our course for the present shall be

Good and Bad Children on Monday.
Natural History " Tuesday.
History . . " Wednesd.
Object Lesson " Thursday.
Geography " Friday.
and Drawing . . " Saturday.

We will have a *regular course of lessons* on each subject; and when you want a change, you may learn about Great Men, or Biography, and what is called Natural Philosophy.

Willie. I do not know what that means.

P. And you may learn of different plants and flowers.

L. That is called Botany.

P. We shall teach you only *one idea* in each lesson, so that you may understand and remember it perfectly. I should like much for you to gain ONE IDEA EVERY DAY.

L. That will be *six* ideas in a week.

W. And THREE HUNDRED IDEAS in a year, if we can only remember them; but why should we take so much pains to learn?

Ion. That we may get knowledge, of course.

W. Yes, it is very pleasant to know more; but, after all, what use is our learning? We must die one day, and then we shall go out of the world and leave all our knowledge behind us.

L. Oh Willie! I'm sure that you do not know that; you know we cannot leave it in our bodies.

P. Besides, Willie, that is a *selfish* thought. Do you mean to get knowledge only for yourself? By learning, you may not only get good, but great *pleasure* for yourself and others. Sit down all of you, and I'll tell you a tale about—

THE PLEASURES OF LEARNING.

When I was at boarding-school, there was a boy, a day-scholar, whom we all liked very much. He was only ten years old. He could not play well at cricket or hoop, yet he was the first boy in the school. One day I went home to tea with him. His father was lying on the sofa; he looked very pale, and had a bad cough. His mother was sitting near to him with his little sister, whom she was teaching to write.

After we had taken tea, and played in the garden, we sat down by the side of his mother, and read our lessons to her. Whilst she was sewing she talked to us about them, and explained the hard words. We soon understood them then, and I think I never learned my lessons so quickly before.

W. I see now why he was the first boy in the school.

P. But when we came back after the holidays, we found that he had left school. His father's house was shut up, and empty; for, poor boy, he and his sister had lost their father and mother, and had gone to live with their aunt, on the other side of the pond.

He told us that he had only his little sister left to love now; and that, as he was too poor to come to school again, he intended to read the books of the school library, and to teach her all that he read, and everything that his good mother had told him about God their Father.

And oh! how delighted he was to teach his sister! We could often see him from our bed-room window. How joyfully he would get up at six o'clock in the morning, and would tie on her little black bonnet, and white pinafore, and shawl! Then he would brush her tiny shoes until they were very black, and would put on his straw hat, and away they would go over the hills together.

At nine o'clock, he would teach her to read, then he taught her to write, and to spell. He showed her how to make figures, and work sums on her slate, and their aunt taught her to sew.

I wanted very much to know what they learned on the hills, so one morning I got leave to go with them. "I am going," said Joseph, "to teach little Kate all that my dear mother taught me from underneath this tree. Here are hundreds of things yet to find out and learn. Look at that beautiful sky and the long streaky clouds. We are going to find out where the clouds come from, and what they are made of. Then we want to learn why some clouds are round, and some long, and why they are of such a rosy colour in the morning." "Then," said little Kate, "I want to know what the wind, which blows them along, is made of, and where it comes from. We have been noticing, too, the music which the animals make to the sun, when they see him. Do you see that he is just getting up! Listen, only now! There's the singing of the birds—the buzzing of the insects—the bleating of the lambs in the valley—and the cawing of the rooks a long way off. We mean, this summer, to count up the different trees and plants here, and perhaps the different earths, and rocks, and stones. To-morrow we shall begin to learn about this tree behind us."

"Why, Joseph," I said, "what is there to be learned from this old stump? "Ah!" said he, "my mother taught me many things from it; we had twelve lessons:—1st. We examined the roots, to see what they are made for. 2ndly. We learned about the sap. 3rdly. The trunk. 4thly. The branches. 5thly. The pith. 6thly. The layers of wood. 7thly. The bark. 8thly. The buds. 9thly. The leaves, and what they were made for. 10thly. The little insects which live on the leaves and under the bark. 11thly. How the tree came here, and what it was made for. 12thly. We learned its name, and to what family of trees it belongs. And," said he, "13thly, I'm going to teach all this to Katie, and she is so glad!"

W. But, papa, what was the use of their spending time in noticing these things so much?

P. You ought, Willie, to notice and know *every common thing* around you. From the *Plants* you get food to nourish you, medicine to heal you, and clothing to cover you. The Corn plants gave you the straw for your hat. The Crocus plant grew the yellow colour for the ribbon. The Indigo plant, the dark blue for your neckerchief. You have to thank the Flax plant for the linen of your shirt, and the Cotton tree for your socks. Your shoe-strings came from a silkworm; your coat from a sheep, and your shoes from a calf.

Ion. And the soles from the Gutta Percha tree.

P. The Oak trees are made into ships, the Hemp plant into sails, and the wind blows them along. The Earth affords us Iron for great railroads; and Water the mighty steam for the engines. These are all very common things, and yet you see man has found much good by thinking about them. But, ah! Willie, when you begin to notice how beautifully they are all made, and to feel that they are all *the works of God*, you will gain even a far greater good. One of my books says,

"These charms shall work thy soul's
eternal health,
And love, and gentleness, and joy impart."

So God's works will always teach *you* something new about their Maker, and will give you good thoughts, which you will keep after you go out of this world. We shall find out some of these thoughts soon.

L. And did Joseph get so much good by taking notice?

P. Yes, and his sister too. He taught her every day until she was a great girl, and now they both enjoy, in another way, more happiness than ever.

Ion. How do they get it, papa?

P. By giving it to others. That is the only way to get real happiness. They live in the country, where they have more than a hundred children to teach; and, as they thank God when the children grow wiser and better, the happiness which they see in their faces comes back again to them, a hundred-fold. They talked to me the other day of a higher happiness still, which they know they will have soon.

L. What is that, papa?

P. Listen! In 100 years, you, and I, all of us, will belong to another world instead of this one. Joseph and his sister *must* die too: and their great happiness will begin when they sit in heaven and meet their old scholars. Then, how they will thank God again, that he allowed them to teach! One scholar will say to them, "You first showed me the way up here:" another, "You first taught me to love Jesus Christ." Perhaps many bright angels, as they go on their way to praise God, will stop and say to them, "You first taught us to sing." And even the Great God may call to them, saying, "INASMUCH AS YE HAVE DONE IT UNTO THE LEAST OF THESE MY BRETHREN, YE HAVE DONE IT UNTO ME."

W. Is that *real*, papa?

P. Of course it will be. Do you not know that heaven is as "real" a place as earth? Joseph says that the treasures he has up there are safer than anything he has in this world; he will *never lose* them.

L. *That* is true, because the Bible says so.

P. Now, Willie, you see why I want to teach you more, and to give you a lesson every day. You will, I hope, grow up to be a man, and then you *must* teach others. You need not have a school. This world is a school. Here people *will* learn either good things or bad things from you, and you *cannot help it.* Ever since the world was made, every generation has been learning something from the generation before it, and so the world has become either better or worse.

W. Then we had better learn as much as we can, and get our minds full of good thoughts.

P. True, Willie, a lesson will only cost ten minutes of your play-time. After we have had our week's lessons, we will print them in a book. So, if I can not only teach you, but all the boys and girls in England, do you not think I shall be glad?

W. Oh yes! And I shall be glad to learn, now. Ten minutes a-day! that is not much time. I should be glad to have *two* lessons a-day, so that I might become a good teacher.

1 GOD's presence shineth everywhere,
By night as well as day,
To guard us by his constant care,
And guide us on our way.

2 Although we are but poor and weak,
Children of sin and dust;
Yet we can still our Father seek,
And in him put our trust.

3 And we are strong in him to dare
All that is good and right;
His will to do, his love to share,
Dear children in his sight!

4 Then, let us offer daily praise.
For mercies daily given;
And joyful songs of gladness raise,
In gratitude to heaven.

VERTEBRATED ANIMALS.

Lucy. Mamma, what shall we learn by noticing the Animals?

Mamma. Many useful and pleasant things. You will see in what perfect order God's works are arranged.

Buonaparte's army was once setting out on a march. There were soldiers with red coats, white coats, dark-blue coats,—soldiers on black horses, grey horses, and brown horses, all mixed together in a crowd. There were flags in one part, tents in another, cannons, waggons, waggon-horses, and servants. If you had seen them, you would have said,—What confusion!

But, a few hours afterwards, Buonaparte was there! The red soldiers were all standing in straight lines—the blue-coats were arranged in a square. The waggons were loaded, and placed behind each other in long rows. The flags and cannon were placed at regular distances. Everything was in good order; and *the army was beautiful to look upon.*

W. Ah! I dare say Buonaparte knew all the soldiers and regiments. How I should like to be able to arrange soldiers in such beautiful order.

M. I can give you something better to do than that. The order of soldiers is only *man's* order; but amongst the ten thousand animals which God has placed all over the world, there is *perfect order;* far more beautiful than Buonaparte could make with his men.

W. There does not appear to be any order at all. Every one seems to grow according to its own fancy! When a boy and an oyster have left off growing, how different they look! Yet they are both *animals.* Think of the Elephant and the Sprat; an Owl and a Worm; a Camelopard and a Frog; a Wolf and an Eel; a Star-Fish and a Sheep; a Slug and a Peacock; a Bear and a Butterfly. They may be all brothers, but they seem to me as disorderly in their appearance, as the soldiers were before they marched.

M. Yet, do you know that they are all arranged in a much better order than Buonaparte could make? They become different in their size and shape—not according to their own fancies, but by the intention of their Maker. No doubt he has a reason for every difference that you have ever noticed in them. Every animal has its proper place in nature, and from the highest to the lowest they are all connected together in perfect regularity. They form, as it were, one long chain; and when you begin to see this, you will find the animals even *more beautiful to look upon* than Buonaparte's army.

L. I should like to have seen them when Noah led them into the ark! Perhaps God arranged them for him.

W. I should like to find out what regiment the Dog belongs to, and the Cat.

M. It will be some time before you will be able to do that properly. I may tell you that all the animals are arranged in *four great divisions.* I think I will at once lead you to observe these divisions before you begin to notice the animals more closely.

L. Please, mamma, let us begin directly. Here is our dog Fan; does she belong to a division?

M. Certainly; take her on your lap and notice her.

W. Now, Miss Fan, what are you made of? Flesh, blood, skin, and bones.

Ion. That is more than all animals have: the lobster which mamma bought yesterday had no bones in it.

M. Tell me some of the Dog's bones.

L. Her rib bones.

A. Her leg bones.

W. Her jaw bones.

Ion. I have found such a great bone here. It runs all along her back, from her head down to her tail.

M. This is the largest bone of all. It is the pillar of her body—the ribs and most of the other bones are joined to it. It is called "the *Backbone*, or *Spine.*"

L. These bones make a sort of *framework* for her body. Just as the beams and rafters of a house make a framework for it.

W. The Lobster you spoke of, Ion —although it has not any bones—has a framework to its body, as well as our dog.

Ion. I suppose its *shell* is its framework. But its shell is outside its body.

W. Well, then, it has an *outside* framework—why should it not!—the dog's framework is *inside* its body.

M. We call the dog's framework *a skeleton.* So we will say of her—1st,—Her body is built on an *internal skeleton,* the principal part of which is the backbone.

M. To procure food for this body, it must carry it about from one place to another.

W. So it has four legs, as all animals have.

L. Not *all* animals. The fly has six; the spider has eight; and the oyster—

W. has none. The *worm* has no legs.

Ion. And the centipede has a hundred.

M. Nearly all animals with an internal skeleton, if they have not four legs, have four parts, called *limbs,* with which they move about from place to place.

W. Our canary has an inside skeleton, but it has only *two* legs.

M. Right, Willie, but it has four *limbs;* two for walking, and two for flying; and *fishes* have only limbs for swimming.

M. The dog's food forms *blood,* which is different from that of some animals.

W. Yes; the blood of the butterfly is white.

Ion. And Fan has *red* blood.

M. We shall only notice these three parts at present—her skeleton, limbs, and blood.

Now, listen carefully. All animals that resemble her in these three parts, form one of the great divisions, and are called Backboned Animals. Let us make a lesson about her.

LESSON 1.

"*Our Dog has* (1) *an internal skeleton, with a backbone or spine.*

"*She has* (2) *four limbs.*

"(3) *She has red blood, and is called a* BACKBONED ANIMAL."

Ion. I have been thinking while we were saying it, that *I* am a backboned animal, for I have all these things.

M. That is true, Ion. Tell me some other backboned animals.

L. The Cat, the Cow, the Horse.

W. The Fox, the Wolf, the Elephant.

Ion. The Parrot, Eagle, Frog, Whale, Lizard, Herring, and Sprat, are backboned animals.

M. So is the Serpent, but it *has no feet.* Some of the Lizards have only *two* feet. You will remember, then, that not *all* backboned animals have four limbs.

L. The Eels have not, and many of the fishes.

Ion. I have just thought such a good thought, Willie. We will write down on a large piece of paper the names of all the backboned animals we know, so as to make a *division.* What a large one it will be!

W. Yes; and we will take great

care of it, and whenever we find out a new backboned animal, or hear of one, we will join its name to the list.

L. And we will pin the list on to the nursery wall.

M. That will be a very good plan, and when you have made a large list, I will teach you to arrange them again into classes. Remember, once more, that to know a Backboned animal properly you must notice three of its parts,—its Skeleton, Limbs, and Blood.

And here is something else for you. If you like to call your division by a *Latin* name, instead of an English one, do not write "Backboned," but "Vertebrated" animals.

W. I think that is a better word. "I, Willie, am a VERTEBRATED ANIMAL! Of course I am! I don't like to be called 'Backboned.'"

I SING th' almighty power of God,
  That made the mountains rise;
That spread the flowing seas abroad,
  And built the lofty skies.

I sing the wisdom that ordained
  The sun to rule the day;
The moon shines full at his command,
  And all the stars obey.

I sing the goodness of the Lord,
  That filled the earth with food;
He formed the creatures with his word,
  And then pronounced them good.

Lord, how thy wonders are displayed,
  Where'er I turn mine eyes;
If I survey the ground I tread,
  Or gaze upon the skies!

There's not a plant or flower below,
  But makes thy glory known;
And clouds arise, and tempests blow,
  By order from thy throne.

Creatures, as numerous as they be,
  Are subject to thy care;
There's not a place where we can flee,
  But GOD IS PRESENT THERE.

Watts.

THE ANCIENT BRITONS.

Lucy. Please, papa, Wednesday is to be the History morning. Will you teach us about a King before you go to town?

Papa. Yes; I am quite ready. Once there was a King. But, stop! would you not like to learn about the place he lived in first?

W. Oh, yes! then we shall understand about the King much better.

P. I know of an Island which in the old times was even more beautiful than it is now. Ah, if you could have seen it! Some parts were covered with woods and thick forests of oak, where many wild animals lived. There were mountains, where the eagles built their nests. Lakes with fish and wild fowl. There were mines under the ground, with iron, copper, and tin. At the south, there were long downs sloping towards the sea, and covered with grass as smooth as green velvet;—thousands of sheep feed there now—and not far off from the downs were tall cliffs made of chalk, from which you could see another country called Gaul.

W. Why, that must be England!

P. Let us wait and see. Some parts would have made a pretty picture. Near the woods and lakes were many round huts made of wicker work, or of boughs of trees covered with the skins of animals.

The natives, too, were worth seeing. I once saw a picture of a native going out in the morning, to hunt for his dinner. He had very few clothes on, which were made of skins; and his body was painted different colours.

L. Then, I am sure, Willie, he was not an *Englishman*.

P. He was standing near a hut, with his dog by his side, and a bow in his hand; and off they both went, far into the shady woods, to find and kill some animal. But, perhaps, after hunting for some time, they would come back with only a few roots, and some acorns and berries.

W. Poor fellow! and is that all he would have for dinner?

P. Yes; but perhaps on a Tuesday he would kill a deer. On Wednesday, he might shoot a bird. On Thursday, catch a fish.

W. A salmon, perhaps. Where would he catch it?

P. He would catch a *salmon* in the river; but sometimes he would take his net and canoe, and go on the lake.

L. On Friday, he would only have some milk.

P. Perhaps nothing else. In this manner the natives lived on one part of the Island. The people could make little else but huts, canoes, arrows, spears, and nets. The only animal they had for a companion was the dog, who liked that sort of life; and the only objects for which they seemed to live were to eat, and to fight.

L. Why, they were not much better than the lower animals. I dare say the dog thought himself as good as his master!

P. Yes; their state was the lowest state of mankind;—such men are in a *savage state*, and are called HUNTERS.

L. Oh! we read about that state of man in the Bible; about Nimrod, the great hunter, and others.

P. Even now there are people in the world in such a state—the North American Indians, the Australians, the New Zealanders—

W. And most of the Africans.

P. In another part of the Island,—in the beautiful valleys—some of the natives were in a better state.

They had learned to tame some of the animals, which came down from the hills to feed; and on the broad green pasture-land, you might have seen flocks of sheep, and herds of cattle, which they would watch over during the day, leading them from one green spot to another. So these men, as their flocks increased, gathered riches; some began to be masters, and some servants. They were said to be in a *pastoral state*, and were called SHEPHERDS.

L. Just like Abraham. The Bible says that he was rich in cattle, and silver, and gold.

W. And the Bible says, too, that he had sheep, and oxen, and men-servants and maid-servants, and she-asses and camels. Do not the Arabs live in such a state now?

P. Yes. There were others on the Island in a more civilised state, whom I will describe next time.

Ion. Please, papa, tell us the name of the Island before you leav off.

P. The Island is the one on which you are standing now.

Ion. Perhaps there was a hut in our garden.

P. It was called *Britain*, and the people were called Britons.

Ion. How long ago was it?

P. A long time. Try and think of the time. Nineteen hundred years ago. Fifty years before the birth of our Saviour.

L. Now let us make up a lesson.

LESSON 1.

(1.) *About* 1900 *years ago, which was* 50 *years before Christ, this country was called Britain.*

(2.) *The People were called Britons.*

(3.) *Some of the Britons lived in a savage state, and were* HUNTERS; *some lived in a pastoral state, and were* SHEPHERDS; *and others*—

W. We shall learn about another day.

---

1 GOD bless our native land,
May Heaven's protecting hand
Still guard our shore!
May peace her power extend,
Foe be transform'd to friend,
And Britain's rights depend
On war no more.

2 May just and righteous laws
Uphold the public cause,
And bless our Isle!
Home of the brave and free,
The land of liberty—
We pray that still on thee,
Kind Heaven may smile.

3 And not this land alone,
But be thy mercies known
From shore to shore!
Lord, make the nations see
That men should brothers be,
And form one family,
The wide world o'er

4 God save our gracious Queen,
Long live our gracious Queen,
God save the Queen!
Send her victorious,
Happy and glorious,
Long to reign over us,
God save the Queen!

Hickson

THE TABLE-CLOTH.

Lucy. I do not know anything about Object Lessons. Mamma, what are they for?

Mamma. First,—To teach you to observe minutely. More than half the knowledge which men possess, they get by carefully noticing things.

W. That is easy; we are to use our eyes, I suppose.

M. Yes, and other organs also; you do not observe sounds with your eyes.

W. No; I use my ears.

M. And how do you notice different scents?

W. I observe them with my nose.

M. And the differences in taste—between the taste of milk, and milk and water, for instance?

W. I find that out with my tongue.

M. And if you want to know whether your plate is hot or cold?

W. I can tell that by feeling.

M. So you have several organs to observe with.

W. Yes; organs for seeing, hearing, smelling, tasting, and feeling,—there are five.

M. They are called the *five senses.* These senses are, all day long, bringing some knowledge or other to your mind. The Object Lessons will lead you to use them more carefully and slowly,—and afterwards to form words for *expressing* your observations with exactness.

In the course of time you will learn many things. You will have to look at two or three objects together,—and to notice in what they are alike, and in what they differ—to *compare* them as we say. Then you will learn to find out the *reason why* they differ—*to reflect;* and when you can observe, compare, and reflect carefully, you shall learn to *arrange* your objects in classes.

W. Oh, I do not understand that at all, mamma! Please, where is an object to begin with?

M. There are plenty of objects everywhere. Here on the breakfast-table is a good stock of lessons. The piece of bread and butter you are eating—you have never noticed it half enough.

L. And the milk, and egg.

M. Yes; we will talk about the bread, butter, sugar, milk, the egg, the salt, coffee, papa's cocoa, the boiling water, bacon, knife and fork, plate, tea-cup, spoon, coffee-pot, the table-cloth, and the mats: one object every Thursday morning at breakfast-time.

We shall not have time for a long lesson now—suppose we begin with the table-cloth. Now, Willie—take great notice with your eyes, and tell me all its parts.

W. My eyes tell me it has no parts at all;—it is one large piece.

M. Then you must have very bad eyes, Willie—look again.

Ion. Here is the *corner* of the cloth in my lap. This is one part, is it not? The table-cloth has corners.

M. Quite right, Ion. Now, move your finger from that corner to Lucy's corner, without taking it off the cloth, and you will find that it may travel to her in four directions.

Ion. I can move my finger along this edge, or the other—in two directions.

W. That is *another* part—the edge. The cloth has corners and *edges*—two parts.

Ion. Or, instead of going round the edges, I may move my finger across the face of the cloth to Lucy.

M. Do not say "the cloth's *face,*" say *surface.* Your finger may travel in another way across the *under surface*—that will make four directions.

W. Ah, then, the cloth has four parts — the edges, corners, upper surface, and under surface. And I see another! In what part is the urn placed?

Ada. In the *middle*; that is another part.

L. Here is another part, which I made myself—the "hem" round it.

Ion. And then you made some *stitches*, they must be parts of the cloth.

M. So they are.

Ada. I see some *flowers* marked all over it.

W. But they are not *parts*.

L. I think the flowers on it must be called parts, because if the cloth had not any patterns on it, it would be a sheet.

W. Very well. It has a *border*—that is a part.

Ion. Oh! oh! I am so pleased. I have found thousands of parts all at once. Look!— while I pull out some in this place, where it is "unravelled." They are little threads, or "ravellings."

M. They are called *fibres* properly.

Ion. Where do the fibres come from, mamma?

M. They grow in the fields. In Yorkshire, Ireland, and Flanders, you may see fields covered with plants, bearing a pretty blue flower: they are called *flax plants*. After the flowers are dead, the plants are pulled up. The seeds are then beaten out; the stalks are soaked in water, and dried, and beaten, and combed, and bleached, and so on, until they become bundles of fibres fit to make into a table-cloth.

L. What is done with the seeds?

M. They are sold to the chemists, and others, and are called linseed.

W. So my linseed-tea, and the table-cloth, come from the same plant.

L. And the linseed-oil which Jane rubs the furniture with.

M. Goods made from the flax-plant are called "linen" goods. They are manufactured in Leeds, Dundee, Dunfermline, and the north of Ireland. You may look for these places on the map. Come, Willie, try if your eyes are any better now. Can you tell me the parts of the table-cloth?

W. Yes, mamma, I can see them now. May I make up the lesson about it?

Object Lesson No. 1.—THE TABLE-CLOTH.

(1) *Our Table-cloth is a piece of linen with four edges—four corners—an Under Surface, Upper Surface—Middle, Hem, Stitches, Pattern, Border, and Fibres.*

(2) *The linen is procured from the stalk of the flax plant, which is grown in* YORKSHIRE, IRELAND, FLANDERS, *&c.*

(3) *Table-cloths are made at* LEEDS, DUNDEE, DUNFERMLINE, *&c.*

GOD might have bade the earth bring forth
Enough for great and small,
The oak-tree and the cedar-tree,
Without a *flower* at all.

He might have made enough, enough
For every want of ours,
For med'cine, luxury, and food,
And yet have made no flowers!

Then wherefore, wherefore were they made
All dyed in rainbow light,
All fashion'd with supremest grace,
Up-springing day and night?

To comfort man, and whisper hope,
Whene'er his faith is dim;
For God, who careth for the flowers,
Will much *more* care for him!

—Mary Howitt.

SOLIDS, LIQUIDS, AND FLUIDS.

P. Come, Lucy! I have a long story to tell you about ADOLF.

L. Who is "Adolf," papa?

P. You shall hear. Adolf, and his brother and sister, went up on a tall cliff. "Ah!" he said, "I have thought of something. You, my brother, are going to learn of the animals on the earth. You, my sister, are going to learn of all the beautiful trees and plants. And now, I, too, have found something to learn about; I will learn of the WORLD ITSELF, on which they live.

"Yes," said he, "I can see many things even already. Look, yonder, at the broad green ocean! See the rolling waves, with their white foam dashing against the rocks! Do you hear the angry wind whistling to them? Listen, now!—it is howling and beating them about, and the poor waves are roaring for fear. Whew! Here it comes. Mind! It will blow you over. You cannot see it, and *yet* it is stronger than you are.

"Do you notice the dark iron-grey cloud which seems almost to touch the Ocean? How thick and heavy it looks! Old 'Wind' seems inclined to make it *move on*. But ah! it is rather hard work for him. He can only persuade it to jog along slowly.

"See the long range of hills behind us, with their round white heads, made of chalk. Here are flint-stones to examine, and *black* earth; a bank of *red* earth, and shingle, and sand.

"Now," said Adolf to his sister, "whilst you are learning about your trees, I mean to notice all these things. I will travel all over the world, and will learn of the deep waters, and the high mountains, with their snows, glaciers, and waterfalls. I will learn of the fields of ice at the Poles, and the burning deserts of Africa; I will go and see the Coral Rocks made by little insects, the rocks which have been formed by the water, and others which have been made by fire. Then, I will learn of the great fiery lakes under the earth, and the burning volcanoes. Oh!" said he, "you may talk about your trees and animals, but the earth is all wonders. I WILL LEARN ABOUT THE EARTH."

L. And, papa, shall we hear of all the places he saw?

P. Yes. We will begin now. He first learned, what you all know, that the world is a globe turning on its axis. Then he found out that, although it seemed to be an immense world, after all it is but a little speck compared with some of the stars which God has made.

He found that the middle of this globe consists of heavy rocks made of granite, &c., which are covered over with a CRUST OF EARTH."

W. That earth is lighter than the rocks. I dug some of it this morning with my spade.

P. Then, the greater part of this crust—all, except the high parts, where man and the animals live—is surrounded by a still lighter substance.

L. That is WATER. You need not dig that, Willie. It is so light, that I can move it by blowing it with my breath.

P. And then he found that the earth and water are surrounded by something else—thinner, and lighter still—so that a drop of water will sink through it.

L. That is AIR.

P. By taking great notice, he found that the three great divisions —EARTH, WATER, and AIR, are all composed of *very little parts*, called particles.

The particles of the earth hold fast to each other, so that we can walk and tread on them without sinking: therefore, the earth is called *solid*.

Ion. The stones are very solid; but, when Jane bought a lump of salt yesterday, I moved some of its particles away from the others, only by touching them with my finger.

P. Still, when she placed the salt on the table, and you did not rub it, it kept its shape, and the particles did not fall away from each other—so it is solid. But let us go down in the kitchen. Here is a glass full of the next substance—*Water.* Willie, just turn it over, and put it in a lump on the table.

W. I'll try. Ah, papa, look! Instead of keeping the shape it had in the glass, the water has allowed its particles to run away from it, everywhere. Mind, Lucy! Some of them are running into your lap, and some have gone on a visit to the floor. The particles of the water are sprawling all over the table, and do not keep in any particular shape.

L. That is because they cannot *hold together* so much as the particles of the earth.

Ion. Then water is not solid.

P. No, it is not. Yet there must be a little power, which holds its particles together. All look at this *drop*, at the end of my finger. It has more than a million particles, yet there is some power keeping them close to each other in a round shape.

L. Yes, the particles at the lower part of the drop hold fast to the particles of the upper part.

Ion. And there is some power holding the outside particles to those inside.

W. And the *same power* holds the drop to papa's finger. But that power is not strong enough to hold together the particles of *two* drops. If you were to try and join another one to this, they would both fall down together.

P. That is true. Now bring me another glass of water. See, Willie! Directly I put my solid finger on the top of the water, and push, the particles make way for it.

L. That is because they are so *loose;* the power which holds them together cannot prevent your finger from separating them. I see the difference between Water and solid things—*There is not so much power to hold its particles together.* What do you call the water, papa, if it is not solid?

P. We call it *liquid.* All of you repeat this after me. *The particles of water are so loose, that they can only hang together so as to form a drop—so water is called* LIQUID.

Ion. And now—THE AIR.

W. The particles in the air must be very small, for I cannot even see them.

Ion. And they are so loose, that even the drops of rain fall through them. Yet they have some substance, I suppose?

P. Yes. Take this empty bladder, Willie, and blow into it.

Ion. How it is swelling!

W. Yes, of course, the particles of air from my mouth move it. Now, I will open the bladder again, and let the particles out. Listen! Here they come. Hark! what a hurry they are in. I can hear them. I can feel them against my cheek, but cannot see them.

P. See this feather which I have thrown up in the air, how slowly it comes down!

L. Yes, there must be particles in the air to keep it up so long.

P. Now let us find a name for the air. Repeat this, together:—*The air is composed of particles, so small that we cannot see them. They are always flowing about, and cannot hold together* *enough to form a drop. So the air is called* FLUID.

Thus Adolf found out, on the *first morning*, that in learning of this great world he would have to notice three different substances:—and, as he went home, he made up this lesson in his mind.

Physical Geography. LESSON 1.

1. *The* EARTH *on which we live is in a* SOLID STATE.

2. *The* WATER *surrounding the earth is in a* LIQUID STATE. *And*

3. *The* AIR, *surrounding the Earth and Water, is in a* FLUID STATE. "*Solid*," "*liquid*," and "*fluid*." We will talk again about these words.

THE God of nature and of grace
In all his works appears;
His goodness through the earth we trace,
His grandeur in the spheres.

Behold this fair and fertile globe,
By Him in wisdom planned;
'Twas he who girded, like a robe,
The ocean round the land.

Lift to the firmament your eye,
Thither his path pursue,
His glory, boundless as the sky,
O'erwhelms the wondering view.

Here on the hills He feeds his herds,
His flocks on yonder plains;
His praise is warbled by the birds,
O could we catch their strains!

In every stream his bounty flows,
Diffusing joy and wealth;
In every breeze his spirit blows,
The breath of life and health.

His blessings fall in plenteous showers
Upon the lap of Earth,
That teems with foliage, fruit, and flowers,
And rings with infant mirth.

If God hath made this world so fair,
Where sin and death abound,
How beautiful beyond compare
Will Paradise be found!

Ion. Papa, will you please to tell me some of the uses of Drawing?

P. Yes, Ion. Suppose I had just invented the steam-engine, and wanted to give you an idea of all the machinery inside. Well! If I could not draw, I must sit down and write a long account of every little part.

Ion. And then, perhaps, I should not understand it.

P. But, if I had *drawn* each part by itself on a piece of paper, and then had drawn the whole of it?

Ion. Then I should have understood it much better, for I should have seen it with my eyes.

W. Yes, he would have seen it with the eye in *his body*, but from your "description" he would have to see with the eye of his mind—his *mind's eye.*

L. He would make *an image* in his mind—that is called "imagination," I suppose.

P. And if I had wanted to send my description of this wonderful thing to all the nations in the world, I should have to write it in French, German, Persian, Sanscrit, Chinese, and many other languages;—but, the Drawing—

Ion. It would be understood by all people, without being translated.

L. I could never remember the position or size of *countries*, without a map of the world. If I learn about countries "out of book," I forget them; but when I *see* the places on the map, I can remember them easily.

W. So Drawing helps your *memory.*

P. And then, again, if I wanted the people at Brussels to make me a carpet, exactly the pattern of this one, I should write and say, "Make me a very curly scroll, with two flowers, sticking out on the right side, one growing from the middle, and half a dozen springs at the end."

Ion. Oh! of course. They could not understand: they must have a pattern.

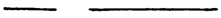
P. No, they could not *imagine* it correctly. You will find, as you proceed, that Drawing and Painting have even higher uses. We will begin to-day with a lesson on Lines.

LINES.

P. What is the difference between these two lines?

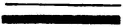
W. One is straight, and the other is bent.

P. You should say *curved*—not *bent.* We shall first talk about straight lines; they may differ in many ways. Look at these.



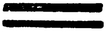
W. I see a difference: one is long, and the other is short.

P. Lines, then, may differ in *length.* What difference do you observe in these?



Ion. One is broader than the other—they differ in *breadth.*

P. Look at these two lines.



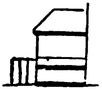
L. They are of the same length and breadth.

W. I see. One is darker than the other. They differ in "*shade.*"

P. Here are two lines exactly alike, and yet they differ.

W. How can that be!—They are of the same length, breadth, and shade.

L. There is no difference in the lines themselves, but they have different *directions.*



Ion. Then we will say that they differ in *direction.*

P. Can you tell me a difference in the three dark lines in this drawing of a shed? They have the same length, breadth, shade, and direction.

L. I can. Their direction is the same, but they are in different parts of the picture. One is near the top, the other is in the middle (no, *nearly so*), and the other at the bottom. They differ in their *position.*

W. What a number of differences! I will say them. Lines may differ, (1) in length, (2) in breadth, (3) in shade, (4) in direction, and (5) in position.

P. Let us see, now, how necessary it is to attend to these things. In order to make you understand their importance, I have made five little drawings.

In No. 1, all the lines are correct. The house is drawn with light lines, because it is farther off than the shed; or, as an artist would say, in the "back-ground."

L. And I suppose that the shed and palings are drawn with dark lines, because they are nearer—in the *front*-ground.

P. Yes; but if you want to use an artist's word, say "fore-ground." What is the matter with No. 2?

W. The lines are of the wrong length. Oh! look at the house. How much taller it has grown, and the poor shed is too thin,—too narrow, I mean.

P. And in No. 3?

Ion. The lines are not of the right shade. They are all alike, and the house appears to be *quite as near* as the shed.

P. Look at No. 4.

L. The lines are not right in breadth. The back-ground lines are too broad, and the house appears to be *nearer* than the shed.

P. And in No. 5?

W. They are all wrong together; they are falling in the wrong *direction.*

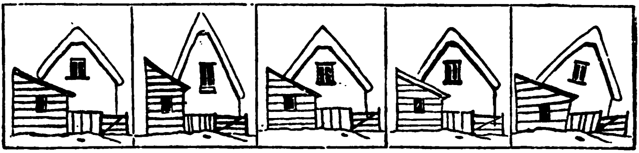
P. Now let us say the lesson.

Lesson No. 1.—LINES.

In making a line, we must be careful that it has the right length, breadth, shade, direction, and position.

W. And that is a great deal to remember. How very slowly I shall make my lines! I shall have to ask each one five questions.

P. That will be quite right, Willie. In drawing, if you want to improve quickly, you must work slowly; and it is so with everything else.



1. 2. 3. 4. 5.

WORK AND PLAY.

WORK while you work,
Play while you play,
That is the way
To be cheerful and gay.

All that you do,
Do with your might;
Things done by halves
Are never done right.

One thing each time,
And that done well,
Is a very good rule,
As many can tell.

Moments are useless
Trifled away;
So work while you work,
And play while you play

PLEASANT PAGES

FOR THE

2nd Week. MONDAY. **Moral Lesson.**

TRUTH.

W. I'm sure that I would never tell a lie, papa, nor would Lucy, nor Ion.

P. But, Willie, you may fall into a habit nearly as bad. Many truthful men in this world have broken the truth, from not having learned to be careful. Truth is like a most beautiful flower, it is so tender, that it is soon spoiled.

I know a gentleman who lives in a large castle. He has horses and hounds, and goes hunting. He has thirty servants. He went to Eton School when he was a boy. His father spent £1200 to make him a scholar. He learned many things, and much Latin and Greek, but now he is not happy.

Ion. Why?

P. Because he never learned Truth. He often says words which are different from his thoughts, so that his neighbours do not trust him. So, with all his learning, and his large house, and riches, he is not so happy as his gardener, who lives in a small house, and is poor.

W. Why, papa! Then Truth must be worth more than £1200, and a castle, and thirty servants!

Ion. And worth more than a horse and hounds, and Latin and Greek!

P. Yes; I would sooner give you a love of truth than a bag of gold; it would last longer. If I kept a school, I would teach you truth first, and Latin afterwards. So I shall talk to you about TRUTH for the next six Mondays. Listen.

REGINALD was a boy who used to sleep in my bedroom at school. One morning I went into his bed, and we worked hard at our Delectus, to finish it before the ringing of the 7 o'clock bell. But we came to a very hard sentence, which *would not* be made into English. "Well, Reginald," I said, "you are first in the class, I am second; this will be Jones's piece, and the Latin master will help him,—let us leave it."

"Oh, Henry!" said he, "that will be no credit to us. When the carpenter was putting up the white blind yesterday, I thought he had done it very nicely; but, all at once, he unscrewed the bracket, took down the roller, and fastened it up again, on purpose to make one end not quite a quarter of an inch lower." "You see, Master Reginald," said he, "that the red tassel, instead of hanging *exactly* across the middle of this pane, was just a very little on one side; so the blind was not quite *true*—and, do you know, I would work even half an hour longer for the same money, so as to be quite sure that it is *exactly right.* Your master sent for me to hang it up *properly*."

"Well, then, Reginald," I said, "I see what you mean, *we* will work ten minutes longer. Our master gave us this lesson that we might do it properly." "To be sure," he replied; "we only want a *little more patience*, and then, when we stand up in our class, we shall know that our work is sound, and true. I feel as proud when I go to my class, and know that my sums and Latin lessons are *all right*, as the old carpenter does when he passes the school-room windows, and knows that the blinds are all true." He told me that every bit of work he had done in the village was sound;—for, he said, you may sometimes get credit for bad work, *but it never lasts*. "And our Latin-work," I said, "will not last, if it is not true; it will be of no use to us. So, work away!"

But you shall hear, now, how Reginald forgot this, and made a mistake.

Once he asked me to "touch up" a large drawing which he was making to take home at Christmas; so, I rubbed out the two Gothic windows of the castle he had drawn, and made them again, for he never could draw buildings very nicely.

At the Examination many people noticed his picture. "Well done! Reginald," said his papa, "I will buy you a new drawing-book." "Oh! Reginald," said his pretty cousin Amy, "I am quite as old as you, but I cannot draw such a castle as that! What beautiful windows!"

W. Did he tell her, papa, that you had drawn them?

P. No! that was the mistake he made. He thought to himself, "I did the greater part of the picture, and if I do not *say* that I did it all, it is not a lie."

L. I think it was; because, you may tell an untruth by being silent, as much as by speaking. *He made them think he had drawn it!*

P. But he could not think rightly about the truth, then. Do you know why?

L. Because he was thinking so much about the *praise* he was getting. He liked his country cousins to think he could draw.

W. If the old carpenter had been there, he would have whispered, "Ah, master! that praise is not true; *it will not last*."

Ion. I suppose it did not last, then?

P. No; the first day in the holidays, he came to our house with an album, and begged me to draw a little castle in it, exactly like the one I had altered in his large picture. When he had gone, I looked at the fly-leaf of the book, and found that it belonged to his cousin Amy, who had come to see him.

W. So I suppose she had asked him to draw it, and he was ashamed to say he could not do it?

L. And was obliged now to deceive her again, by giving her one of your drawings!

P. The same evening we went to Leicester-square, to see a great panorama of Jerusalem. "Oh! Reginald dear!" said cousin

Amy, "please make me a little sketch of that beautiful temple; here is a piece of paper!" "And here," said his cousin Tom, "is a pencil."

W. I suppose he looked very red in the face!

P. Yes, and was obliged to pretend that there was not time enough.

The next morning his aunt was looking over his large picture, which his papa had put in a frame, and said to him, "Reginald, we are going to have a fancy sale for the Orphan School. Here is a large drawing of the building, and I want you to make me six copies, on these little embossed cards."

L. What did he do?

P. He brought them to me to be drawn; but, in half an hour, he came back again, saying, "No! I will not tell any more untruths!" So on the next morning, before breakfast, he went into the parlour, took the picture out of the frame, and burnt it; he gave back the cards to his aunt, cut out the leaf from Amy's album, told everybody the truth, and said, that he would not receive any more praise for that which was untrue.

W. That was the best thing he could have done, and I dare-say he felt a great deal happier directly he had said it. Now let us make a lesson about him. You make it, Lucy!

L. It is a very easy lesson:—NEVER GIVE UP TRUTH FOR THE SAKE OF PRAISE.

P. *Why*, Lucy?

L. Because the truth is *better* than the praise. While you keep the truth you do right, and God loves you!

W. Besides, if you give up truth only for praise which you do not deserve, the praise will not last.

Ion. And then you will lose the praise and the truth too.

P. Now what sort of a boy will you call Reginald—good or bad?

Ion. Well, I was thinking about it just now. It was *bad* to tell an untruth; but, when he found that he was going wrong, he stopped. Everybody does wrong sometimes; but he told the truth at last, so I call him *good*.

W. And so do I. But, what do you call it, papa, when people pretend to be better than they are, for the sake of praise?

P. That is called HYPOCRISY.

W. Then let us put that word in the Lesson. *Never give up truth for the sake of praise, because it leads to* HYPOCRISY.

ONCE there was a little boy
With curly hair and pleasant eye,
A boy who always spoke the truth,
And never, never told a lie.

And when he trotted off to school,
The children all about would cry,
There goes the curly-headed boy,
The boy who never tells a lie.

C*

And everybody loved him so,
Because he always told the truth,
That every day, as he grew up,
'Twas said, "There goes the honest youth!"

And when the people that stood near
Would turn to ask the reason why
The answer would be always this—
Because he never tells a lie.

ARTICULATED ANIMALS.

L. Mamma, you said we were to bring for our lesson an animal without any backbone; so Willie has brought a *White-Cabbage Butterfly* in his pocket-handkerchief.

M. That will do. Put it under a wine-glass, on the table. I think that, to-day, instead of teaching you myself, I will make the butterfly give you his own history. You may ask him any question you please.

W. That will be a famous plan! Now, Sir Butterfly, we shall keep you prisoner for half-an-hour. You are to give a faithful account of yourself, and answer all questions in a respectful manner. And, if you do thus to our satisfaction, we will give you your liberty again.

Ion. And perhaps a piece of sugar too. But, mamma! how is he to speak?

M. Oh, very easily. To be sure, he does not know the *English* dialect, but he can tell me in the butterfly tongue, and I will interpret.

Butterfly. I AM A CABBAGE BUTTERFLY!

W. Yes, we all know that.

M. It is not good manners to interrupt him; he will be frightened.

Butterfly. And I am as much a gentleman as any butterfly with red and gold wings, for I never demean myself by doing anything in particular. I fly about like a merry fellow as soon as the sun has aired the day, and the flowers are opened to receive visitors: and a very happy time I have too, except when certain rude boys come slily behind me, with their caps in their—

W. Just please to keep to the subject before you, sir, if you want ever to get out of that glass again. We want the history of your birth and life.

B. So I will. I cannot boast of having been born in a very genteel place, but it was not *my* fault.

Ada. Ask him if he was born in a bower.

B. No. I was born on a leaf. There were a number of little eggs on it, close together, looking just like pins' heads. One of these eggs must have been my sleeping apartment, for I know that after having dwelt in it for some time, the sun shone on me and my brothers until we were so warm that we woke up, and set out to seek more comfortable quarters. I have heard people say that the sun was "hatching" our eggs and bringing us to life, but I don't understand that, and do not believe it.

Ion. What little butterflies you must have been! How curious you must have looked—one hundred of you flying away together!

B. Oh! Do you not know better than that? We were not born *butterflies*, we were all very tiny caterpillars, with long rows of little feet, and large heads. I soon found, too, that I had a mouth, and jaws, but my mouth, instead of being placed in my head this way —, like the mouths of your backboned animals, was placed so, |, and my jaws, instead of moving up and down like yours, opened and shut *sideways*. You should have seen me *using* them on a cabbage! Eating, with me, was at first only an occasional exercise; but at last I felt a passion for the work. My companions and I never seemed tired of it. Could you in one day eat food twice the weight of your body?

W. No.

B. Well, then, I did, and digested it too. But that is nothing! I have read in one of Dr. Carpenter's books of a number of silkworms, which, in their eggs, only weighed half-an-ounce, altogether:—but, when they were full grown, they managed to eat *four thousand ounces* of mulberry-leaves in a day!

Ion. Then each one, in a day, ate four thousand times as much as its body once weighed! I have been thinking, sir, that *you* must have grown rather quickly.

B. I should think we did, indeed! we often burst our skins because they were not large enough, and had new ones. I changed my skin seven times!

L. Mamma, are we to believe what he is saying?

M. Yes, it is quite true.

B. At last we found our appetites failing us. All my friends had grown to such a size, that I did not know them. Some of them, I saw, began to hang up their bodies by little threads; and I observed a new skin growing all over them—head and body—until it quite covered them, and shut them up. This skin appeared green at first, but, in time, it hardened and became a sort of shell, something like a coffin. Soon afterwards the same accident happened to me, and I became as crusty as they were.

W. Ah! I can tell you what was the matter. You were changed into a *chrysalis*.

B. I am quite in the dark as to what I was, or where I was. It was *very* dark inside, until one day a part of my shell opened. Oh! then I found out strange things! I had new eyes, with which I saw my new thin body wrapped up in four very thin wings. I had six long legs, two long "antennæ" on my head, two "palpi;" and instead of my old mouth, just look at my new one, what a beautiful curly trunk it is! No more cabbage-leaf! Such a mouth was not made to eat that. I fly from one garden to another, dip my tube far down into the flowers, and suck up their sweetest juices. If you will let me out on the lawn, I will then shew you how I do it.

L. Oh no, sir! we cannot spare you yet. We want, more particularly, to observe your different parts, and to find out *what division* you belong to.

B. Well, then, notice first *my body*. You see I am not troubled with any such thing as a "backbone," but *my skin is hardened* to keep the body in shape.

Ion. Yes, and I have been noticing that your skin is not all in one piece, but it is divided, and forms little hoops all round you.

B. Ah! This is much better than having a backbone. Notice how I can twist my body about.

W. I see! it is because these hoops are jointed together.

L. And they make an *outside* framework.

B. Some of my friends have very large *horny* rings. The beetles, and the locusts, the grasshoppers, crickets, bees, and wasps. We have, too, some very distant relations which have *shelly* rings round their bodies, such as the lobster, and others.

W. I think that is enough. Now, we will make a lesson about you. Now, Lucy, write down—1st. "His body has an outside—no, say *external*—skeleton, made of a number of jointed rings, which do not consist of *bone*, but of horny, or shelly substance.

B. And, Miss Lucy! Please to look at me again. You may write down that I have *six legs*. Some people in our division, the spiders, have *eight*. The crabs and lobsters have *ten*. And some nearly a hundred legs; but *none have less than six*.

W. Pray, sir, what colour is your blood? Red?

B. I never heard of such a thing! Do you think I could be so nasty? My blood was of a beautiful green colour when I was a caterpillar. Now it is a greenish white.

L. Thank you, that will do nicely. We only wanted to understand about these three parts. Now, see us write down your "description."

LESSON 2. *The Butterfly and many other animals have—*

1st. A BODY *with an external skeleton consisting of rings, made of horny or shelly substance, and jointed together.*

2nd. LIMBS, *never less than six in number.*

3rd. BLOOD, *of a greenish-white colour.*

B. But let me tell you about my compound eyes,—and air-vessels. I'll surprise you!

L. No, thank you. That is sufficient. We only wanted to hear of those three parts. Mamma, what name shall I give this division?

M. "Jointed Animals."

L. (writing), *They are therefore called* JOINTED ANIMALS. *This division includes the Bee, the Fly, the Gnat, the—*

B. I will tell you some names: "Papilio Brassica," "Gentlemen of the class Arachnida," of the class Crust—

W. Thank you, but we would rather not hear them in Latin. We will write out their names, on the nursery wall.

B. But then, you won't know their addresses.

Ion. We shall know that in time. Now I will let you out, sir. We are very much obliged to you. Shall I give you the piece of sugar?

B. I'd rather not, I thank you.

W. But pray stop a minute. Would you like "a drop of beer?"

B. Bah! How can you offer *alcohol* to a gentleman! Come and see me sip nectar on the lawn.

THE ANCIENT BRITONS.

Papa. Do you remember the last History lesson?

W. Yes, papa, we learned of some Britons who lived in a savage state, and were called Hunters, and of others in a pastoral state—Shepherds. You were going to tell us of others in a more civilized state.

P. Very well. At the south of Britain there was a part called "Cantia."

W. I have read that that was the ancient name for *Kent.*

P. Yes; we call the district "Kent" now. In this part are the white cliffs of Dover, which are opposite France, and can be seen by the French people. The merchants in Gaul (as France was then called) would frequently cross over the narrow straits, in ships.

L. I should think that was the reason why the people were more civilised.

P. That was partly the reason. Perhaps they had once been shepherds. Whilst they were watching the sheep, who cropped the grass in the field, they would not have much else to do, and would have time to think. Then they might have thought that the earth, which was always growing food for the sheep, would also yield food for them, if they cultivated it.

L. How much good comes from *thinking!*

Ion. But is it not wonderful, that, sometimes, a whole nation will live a thousand years without thinking of digging up the ground?

P. Yes. But when the Britons had thought of doing so, they used their oxen to draw the plough; they sowed corn; they brewed ale; they baked bread; and they made butter and cheese. By thinking, they learned how to make useful everything they had: they used the stalks of the corn—the straw—for thatching their cottages; the wool of the sheep for coarse clothing; and the brass and iron they made into rings for money.

When they had learned to till the ground, they began to divide it into farms. Perhaps each family had a cottage on their lot of ground. The men whom these cottages belonged to, would live near to each other, so that they might defend themselves, and take care of their property. Thus they would form "Villages." Such people, you see, were more civilised than the shepherds. They were in an *Agricultural state,* and were called HUSBANDMEN.

W. So that there were three classes of people in the island—SAVAGES, SHEPHERDS, and HUSBANDMEN.

L. Now, papa, will you tell us about their religion. Did they worship God?

P. Not the true God. Poor people! They had no idea that there was one great God. They thought that there was one God who understood medicine, and took care of people who were sick; they called him "*Apollo.*" Another God, they thought, understood buying and selling, and took care of the merchants; they called him "*Mercury.*" Another was the God of war, called "*Mars.*" They worshipped the *sun* too;—and, they were taught how to worship these Gods by their priests, who were called Druids.

Ion. What did they do when they worshipped their gods, papa?

P. Ah! I will tell you. You would have been frightened very much if you had gone to one of their places of worship. In the midst of a forest of oak-trees, you would have seen a circle of immense stones,—some of them five times as high as a man. Inside the circle was a large crowd of Britons, all kneeling or standing together, as silent as though they were dead. Far off was the altar, surrounded by priests, with long grey beards, and dressed in white robes. They were playing on harps, and singing strange songs.

Soon you would see them bring before the altar a tall image of a man —as tall even as the stones of the Temple. This image was made of osier twigs, and inside it was full of live men, crowded one above another.

L. But, papa, they would *die*, if they were packed up so!

P. You shall hear. All the people would be silent; all the Druids would sing. Soon, the great *Arch-Druid*, coming to the foot of the Image, would stand there with a lighted torch in his hand;—and with this torch he would —*set the image on fire!*

L. Oh, papa! with the live men in it!—that is horrible.

P. Then, whilst the flames burst forth, and the burning twigs crackled and hissed;—whilst the men would shriek loud screams, the Druids would sing a deep bass in a voice louder still, and the people would offer up prayers to their Gods.

W. What wicked men those Druids must have been!

P. Some of them were; but perhaps they did not all know better. Sometimes their worship was more simple —when they made feasts, and cut down the mistletoe. These Druids also *taught* the people many things. They made long songs, with many verses, containing a history of the Island; they taught about the Earth and Stars; they cured those who were sick; they made laws for the people; they taught them the art of war, and showed them how to make swords and chariots.

W. Then we might say that the Druids were *Ministers*, *Lawyers*, and *Doctors;*—and some were Poets.

Ion. But I think they must have been wicked men; they must have known that they were not worshipping true gods, for God could never wish men to be burned. What did they burn them for?

W. I suppose they were *afraid* of their gods, and did such things to take away their anger. But it was silly to suppose their gods were so angry that they must *burn men!*

P. Yes; these poor priests did not know the words, "*God is love.*" Men take a long time to learn this. Even priests who have known it, and have read it in His holy word, have been so foolish as to burn men to please Him.

W. Yes, I have read about that; somt were burned in London—in Smithfield; but it was a long time ago, when Bibles were printed in Latin, and the people could not read them.

P. That is true; but even in these days, when men have *English* Bibles, they are too much afraid of God; they only half believe in his goodness. Mind, and remember always, that the true God does not *wish* men to be punished, for there is only one God, and that God is LOVE.

THANK the goodness and the grace
Which on my birth have smiled,
And made me, in these Christian days,
A happy English child.

I was not born as thousands are,
Where God was never known;
And taught to pray a useless prayer
To blocks of wood and stone.

I was not born a little slave,
To labour in the sun,
And wish I were but in the grave,
And all my labour done.

My God, I thank thee, who hast plann'd
A better lot for me,
And placed me in this happy land,
Where I may hear of thee.

BREAD.

W. Mamma, I should like to make an object lesson from my piece of bread-and-butter.

Mamma. Very well, Willie; but we will take one thing at a time,—the bread to-day, and the butter next week. Tell me the principal parts you observe in this piece of bread.

W. The crust, and the crumb.

M. We will talk of the crust first. What do you observe in it?

Ion. It is brown.

W. You cannot *see through* the crust as you can through glass. It would not make good spectacles. It is not *transparent.* What is it called because we cannot see through it?

M. It is said to be "*opaque.*"

L. You cannot *cut* crust very easily.

Ion. I know why. The knife cannot pass through the crust quickly, because the particles are so close together—because it is so *solid.* What do we call a substance when it is *very* solid?

W. You say it is "*hard.*"

Ion. That does not seem quite right, because if you cut the crust of *new* bread, it soon breaks into little pieces. It crumbles.

M. No, Ion. It does not form *crumbs*—observe the little pieces that fall off.

Ion. Yes, I see; they are not like crumbs—they all have *sharp edges.* And when you break a piece of glass, it breaks as quickly as the crust, and all the pieces have sharp edges.

M. Yet, the glass is *very* hard. Now, when a hard substance breaks quickly into pieces with sharp edges, we call it "*brittle.*" Tell me some other brittle substances.

W. Egg-shells, and plates and dishes, are brittle.

Ada. So are china ornaments.

Ion. The blade of a penknife; sealing-wax; slate-pencil; and flint-stones.

W. And my bones are brittle. Don't you remember when I broke my arm?

M. Tell me something that is hard, and *not* brittle.

Ion. A shilling; the coffee-pot; the poker.

Ion. It is not always brittle; only *sometimes.* See me biting my crust now,—the particles do not separate until I *pull* one part away from another.

L. When it is in this state, it is *tough.* So we must say the crust is brown, opaque, hard, *sometimes* brittle, and *sometimes* tough.

Ion. It is only tough when it is *stale.* I think I know why that is. The crumb, you know, is damp, so is *the air* sometimes. And when the loaf has been made two days, and left on a plate, perhaps the dampness from the crumb gets in between the particles of the crust, and the dampness from the air too.

W. Yes, and *the dampness softens the particles;* so the crust, instead of being brittle, becomes *tough.*

M. We will now notice the CRUMB of the bread.

W. It is *white.*

M. You should observe more

slowly, Willie, and then you would not make mistakes so often. Lay the bread on the table-cloth. Now, if the bread is white, the table-cloth is not, for you can see that they are not both alike.

L. No. He should have said, *nearly* white—a "yellowish" white.

Ion. The crumb is full of little holes.

M. We call these holes "*pores.*"—So, in order to remember that the crust has pores, we say it is *porous.*

W. And, the other day, at dinner-time, when I put a piece of bread in the gravy on my plate, it sucked it up—or *absorbed* it, as mamma said.

M. Because the crumb absorbs gravy and other fluids through these little pores, we say it is *absorbent.* Mention some other absorbent substances.

W. Sponge, blotting-paper, flannel, potatoes. So is the earth,—how it sucked up (no, sucked *down*,) the rain last week!

Ion. The pavement, too, is absorbent, but not so much as the ground.

M. Do you know why?

W. Because it has not so many holes or pores in it.

M. Perhaps it has *quite as many* pores, but they are not so large as those of the ground.

L. No, for the pavement is harder. That is, its particles are closer together, so the pores between them must be smaller.

W. We will say, then,—hard things are not so absorbent as soft things, because they have not such large pores.

M. It is generally so.

Ion. It is so with the bread. The crumb is soft, and is *very* absorbent. The crust is hard, and is only *rather* absorbent.

L. The crumb has some other quality, because it is absorbent. If it has such large pores, it cannot have so many particles—so it cannot *weigh* so much as the crust.

W. Of course not. So it is *light*;—that will make four qualities. The crumb is yellowish-white, porous, absorbent, and light. How light sponge is too! That is very absorbent.

Ion. And then, again, because it is porous, you may easily *press it down* with your finger. It is not *hard*, like the crust.

M. No, it is *soft*, like sponge. Here is something else to be observed;—I have cut a thin slice of the crumb. Now, if you hold up to the light a *very* thin piece of crust, you cannot see through it; when I hold this piece of crumb to the light, and move my finger behind it, I can see it moving.

L. Yes, mamma. You see through the pores:—it is *transparent.*

W. But it is not so transparent as glass; you cannot see to *read* through it. It is only *half*-transparent.

M. That is right, Willie; but you had better say *semi*-transparent. The word "semi" means half.

Ion. Then, if we want to be exact, we must say—the crumb, when it is cut into thin slices, is *semi-transparent.*

W. How one quality makes other qualities! How many qualities it has because it is *porous !*—

Because it is porous, it is *absorbent.*

Because it is porous, it is *light.*

Because it is porous, it is *soft.*

Because it is porous, it is *semi-transparent ;* and because it is porous, it is—it easily breaks into crumbs. What name shall I give to that quality, mamma?

M. I will tell you another time. Now repeat the qualities by which you know one part of the bread from the other.

L. I will say them—

THE CRUST is	THE CRUMB is
Brown,	Yellowish-white,
Opaque,	Porous,
Hard, and	Absorbent,
Brittle.	Light,
	Soft, and
	Semi-transparent.

M. These are the qualities which cause the two parts to *differ* from each other, but there are some other qualities, in which they are *both alike.*

Ion. They are both fit to eat.

M. Then we may say—they are *edible.*

L. They both nourish us and keep us alive.

M. So we say—they are *nutritious.* But I think we must now stop. Let us make a lesson.

W. Oh, mamma, I should like first to make a short *history* of the bread;—to say how it is made.

M. Well, begin then.

L. Bread is made from *corn.*

W. 1st.—The corn is ground into *flour.*

Ion. 2nd.—The flour is made into a *thick paste.*

L. 3rd.—The *paste* has yeast, potatoes, and salt mixed with it, to make it into *dough.*

Ion. 4th.—The dough is baked in an oven, and becomes BREAD.

W. So Bread is made from four things,—flour, yeast, potatoes, and salt.

Ion. You have forgotten something, Willie.

L. Yes. If you only mixed together those four substances, you might stir them all the day, but they would never make bread.

W. Oh! of course,—I should want some *water,*—five things.

M. Now form the Lesson. Lucy will write it while you dictate.

Object Lesson No. 2.—BREAD.

Bread has two principal parts. These parts differ from each other. The outside part is brown, opaque, hard, and semi-transparent, and is called THE CRUST. *The inside part is yellowish-white, porous, absorbent, light, soft; when cut in thin slices, is semi-transparent, and is called* THE CRUMB.

These parts are also alike, because they are both edible, and nutritious.

Bread is made from five different substances, viz.:—flour, water, yeast, salt, and sometimes potatoes.

There are many different sorts of bread, such as Wheaten bread; Barley bread; Oaten bread; Rye bread; Brown bread; Cottage bread; and French bread.

W. And "League" bread!

Ion. And Short bread!

Papa. I have thought, since last Friday, that it would be well for you to know something of the Geography of your own country; so you shall learn Physical Geography one week, and the next week Geography of England. I know a Scotch gentleman, called HENRY YOUNG. He intends to travel through all the counties in England, and to see the different rivers, mountains, and mines. He is going to visit the old castles, and other places, where battles and great events have happened. He intends, also, to stop at the large towns—to see the different factories, and to find out where the woollen, cotton, silk goods, and other things, are made.

L. Will he not learn, too, *how* they were made?

P. Yes,—for he purposes to send you an account of the manufactures by which the English people have become so rich:—to show you how the goods are spun, and woven, and dyed, and printed. From these letters, we will one day make some *Lessons on Trades.* But he will also send you a letter every fortnight, with an account of his travels through the counties of England.

W. I am sure we shall be very much obliged to him. We will make a lesson from each letter.

P. Here is his first letter; Lucy may read it.

Ion. What a nice red seal! I will take care of it for Ada.

L. "My dear Children,"—

"One day last week, I was sitting on the back of my horse, and was looking at the broad River Tweed. I had read in one of Sir Walter Scott's books, of

> 'Norham's Castle steep,
> And Tweed's fair river, broad and deep'—

and here was the River itself before me, and old Norham Castle on my right hand. If you get your Map of England—

Ion. Shall I run and fetch it, papa?

P. Yes, certainly; it will be of no use for you to read these letters unless you have a map to look at.

L. "If you get your Map of England, you will see that the River Tweed divides England from Scotland. I glanced across the river, and saw, in the distance, THE CHEVIOT HILL, and other blue hills beyond it. Ah! I thought, I should like to wander over that Southern land, and to know what there is on the other side of those hills. I have seen Scotland, and her 'brown heaths and shaggy woods.' I will certainly go and see the broad fields of England!

"I tied my horse to a tree, sat down, and looked at my Map of England, to see which way to go. I saw that Great Britain consists of two Islands. The large Island contains three countries—*England* and *Wales* and *Scotland.* The small Island, at the West of the large one, is called '*Ireland.*'

"I then took out my History book, and read that, a long time ago, England was called BRITANNIA (you may see that ancient name even now on pieces of money); Scotland was called CALEDONIA; Ireland, HIBERNIA; and Wales, CAMBRIA. I found, too, that after the time of the Romans, Britannia was seized by some people from Germany, called SAXONS, and ANGLES. The Angles called Britannia Angle-land, and we now call it ENGLAND.

"I looked once more at my map, and saw that England is bounded on the *North* by Scotland; on the *South*, by the English Channel; on the *East*, by the North Sea, and on the *West*, by the Irish Sea. The map also had many different *divisions* marked on it. There were 40 divisions in England, and 12 in Wales, making 52 altogether. In my History book, I learned that these divisions were marked out, nearly a thousand years ago, by a good Saxon King, called ALFRED THE GREAT. He appointed governors to these divisions, who were called 'Aldermen,' or 'Counts,'—so, their divisions were called 'Counties.' I found, also, a Saxon word—'*Sciran*,' which means 'to divide,' and from this word *sciran*, the people called the Counties 'shires,' which means 'divisions.' I saw on the map, some counties called shires;—such as '*York-shire*'—'*Derby-shire*,' and others. You will now easily remember that these different parts are sometimes called 'Counties,' because they were governed by Counts, and sometimes 'Shires, because they were Divisions.

"When I had found out this, I took my note-book from my pocket, and wrote down these notes:—

"ENGLAND.

"1*st. England is the Southern part of a large Island. It is separated from Scotland by the River Tweed.*

"2*nd. It was formerly called* BRITANNIA, *by the Romans, but its name was changed to* ANGLE-LAND, *by the Angles—a tribe of Germans.*

"3*rd. England is bounded on the North by Scotland, on the South by the English Channel, on the East by the North Sea, and on the West by the Irish Sea.*

"4*th. It is divided into* 40 *counties. These divisions were made by a Saxon King, called* ALFRED THE GREAT.

"When I had made these notes, I mounted my horse again. She had been cropping the grass all this time,—not troubling her head in the least about Scotland, or England either. So I said to her, 'Well, my good friend, while I have been working, you have been eating—please, now, to carry me to a place where *I* can find something to eat. I want my dinner!' In my next letter, I will tell you where he carried me to. Good bye! Dear children,

"Your faithful friend,

"HENRY YOUNG."

W. Papa, those "notes" of his are just as good as *lessons*. So, we will *learn* them, and we will call them "*Notes* on English Geography," or, "The Traveller's notes," or, some new name.

No. 2. LINES. (*Continued.*)

P. Do you remember the last Drawing lesson?

Ion. *I* do, papa. "Whenever we make a line, we are to see if it is correct in length, breadth, shade, direction, and position."

P. Why are we to make our lines of the right length?

L. Because, if you do not, the thing you draw will have the *wrong shape.*

Ion. And you may spoil the shape of a thing by putting the lines in a wrong *position.* Suppose you were drawing a house;—you might put the lines of the bedroom, parlour-window, and door, close together.

L. Then, they would certainly be in the wrong position.

Ion. And yet, you know, each line might be right in its *direction* and *length.* But, you may spoil a drawing only by putting the lines a *little* in the wrong position.

L. The house in the drawing No. 5 was spoiled by the lines being in the wrong *direction.* They were "slanting," instead of straight.

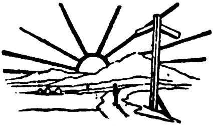
P. Now, tell me—how many points must you attend to, so that the object you draw may be of the right shape?

Ion. Three points. I can make a rule about it. "When we draw an object, its *shape* will depend on the length, direction, and position of the lines.

L. I wonder why we must attend to the other two points—the *shade* of lines, and their *thickness.*

W. The shade and thickness of lines do not alter the *shape* of a thing; because an object will keep the same shape when you are drawing it, no matter how thick the lines are.

Ion. I know why we must attend to the *shade* of lines. See, here is a curious picture which I drew last night, with lines of the wrong thickness.



W. Yes, the lines of the sun are *too dark and thick.*

I. Why should they not be dark?

W. Because, nearly always, things that are far off are not seen so clearly as things that are near, and should be drawn with *lighter lines.* I will tell you how the picture looks. It seems as if the man who drew it was close to the sun; and the post and things that would be *near* to us, were a *long way off* from him—in the distance.

Ion. Then, *near* objects should be drawn with dark lines, and *distant* objects with light lines. This is the rule I have made about it—"The *distance* or *nearness* of an object we may draw depends on the shade and thickness of the lines.

L. You might have made the rule shorter.

Ion. Instead of saying, "the distance or nearness" of an object, you might have said, "the position;" because you meant *distant position* and *near position*. I will now say the two rules in a shorter way:—*When drawing an object, its* SHAPE *will depend on the length, direction, and position of the lines; and its* POSITION *will depend on the thickness and shade of the line.*

P. That is better, Lucy. We will now proceed with the next lesson on straight lines. Let us talk, to-day, about their direction. What do you say of the direction of this line?—|

W. It is upright.

P. Here is a better word for you. Instead of saying "*upright*," say "*perpendicular*." What do you say of this one?——

W. I say it is lying down—it is flat—straight—level.

P. Ah, you say too much at a time.

Ion. I say it is a *flat* line. I mean by that, it has the same direction as ground that is quite *level*, when water will not flow on it in one direction more than another.

P. A *flat* line would be a very good name for it—but the proper name is "*horizontal.*"

Now make a line in another direction.

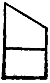
L. Here is one— / It is a *slanting* line.

Ion. Yes, but that is a girl's name for it. Let us have its "grown-up" name, please.

P. Then call it "*oblique.*"

W. So lines have three directions — the PERPENDICULAR, HORIZONTAL, AND OBLIQUE.

P. Find me something in this room which must be drawn with lines in these three directions.



Ion. This envelope-box. The side lines are *perpendicular*—the lid is *oblique*—and the lines at the bottom of the box, and the bottom of the lid, where it separates from the box, are *horizontal.*

W. You said just now, Ion, that *the lid was oblique.*

Ion. But I meant only the *top* of the lid.

L. My copy-book has all three lines. The lines we write in are *horizontal;* the writing is *oblique;* and the sides of the book are *perpendicular.*

W. The letter A has oblique lines, and horizontal.

P. Find out all the letters in the alphabet which you can make with oblique and horizontal lines.

W. Here they are, papa. There are only the first and the last, A and Z.

P. Now find out all you can make with oblique and *perpendicular* lines.

L. I have found them, K M N Y.

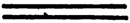
P. Now show me all that are made with *horizontal* and perpendicular lines.

W. Here are five, E F H L T and here are some *all oblique* lines,—V W and X.

Ion. And here is one all in a perpendicular state,—I.

L. The others belong to a different company. They have curved lines in them. See!—B C D G J O P Q R S U.

P. We will now talk about TWO STRAIGHT LINES. Tell me what you observe in the direction of these lines—



W. They have exactly the same direction.

P. That is right; and if I wanted to make them meet each other, I should draw them out to a great length.

L. Then you would not do it, papa. If you were to keep on making them longer for an hour, and to draw them out at both ends, they would not meet.

Ion. But if you altered the direction of one of them *only a very little*, they would meet.

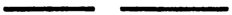
L. Oh, but they must be *exactly* in the same direction, and be straight from beginning to end.

W. Then they have no chance of meeting at all! For, of course, if they keep in the same direction, they must always *keep at the same distance from each other*, like the rails on a railroad. What are we to say of the lines, papa, when they are placed so?

P. You are to say that they are *parallel*.

W. I will make the rule about them—*Two straight lines running in exactly the same direction can never meet, and are called* PARALLEL LINES.

Ion. That will not do. I do not believe in that. Willie says that lines which have exactly the same direction *cannot* meet, and must be *parallel*. Now, look at these two lines—



They have exactly the same direction.

W. Yes.

Ion. Yet, if you make them a little longer, they will soon *meet*. So, *they are not parallel*.

P. Willie was very near the truth. But we will leave off now. Suppose that you all try and find out before next Saturday, how to tell me *exactly* what is meant by parallel lines. Good-bye!—here is the omnibus waiting.

My Home, my own dear home,
It is a happy place,
Where smiles of love are brightening
Each dear familiar face—
Where parents' arms enfold me
In fond embraces pressed,
And daily, nightly blessings
Upon the household rest.
Our morning salutations,
How gladsomely they sound!
And kind "good nights," at evening,
Like curtains, close us round.
The bird seeks not to wander
From its own quiet nest,
But deems it of all places
The dearest and the best.
Home is my nest, where round me
Soft sheltering wings are spread,
And peace and joy and gladness,
With shade and sunlight, shed.
O may I bring no shadow
Of sorrow or of care,
To dim the open brightness
Of happy faces there!

J. E. L.

PLEASANT PAGES

FOR THE

3rd Week. MONDAY. Moral Lesson.

TRUTH.—The Errand-boy.

Conductor.—City! Bank!

H. Mamma! what does the man on that step say that to me for? My name is not City-bank—it is Henry!

M. It is to ask us if we will go in his omnibus. I will stop him, and we will go in.

H. Mamma! why did the man say "Hold hard!" when we went in? Let me kneel up on the cushion,—then I will hold hard to the window and look out. Oh! the houses all seem moving! There is a red cart with gold letters. Is that the Lord Mayor's?

M. No, it is a baker's cart.

H. Mamma! here is a boy on the pavement shaking his hand to the conductor.

Conductor. Hold hard!

H. There, mamma, he is saying it again! Must all people hold hard when they want to ride in an omnibus?

M No; the man does not say "hold hard" to the people, but to the driver. He wants him to pull the reins very hard, and stop his horses.

Boy. How much to the Bank?

Conductor. 6d.

H. The boy has gone back to the linendraper's for a box. Is that coming in here?

M. No; they will put that on the roof; what a long time they are getting it up,—it must be very heavy.

H. Here we go again! I can see the horses' backs out of this little window. Here is a long road! It is "up-hill."

M. This is called the *New* Road.

H. Mamma, we have come up the hill, and here is a place with four omnibuses.

M. This is the Angel, and the inn where we are stopping is called "The Bluecoat Boy."

H. (In a whisper.) Here comes a little girl, and her papa, and two ladies. What large spectacles that—

M. Hush! It is rude to make remarks on any person.

Conductor. Finsbury-square! Off side!

P. I then left the omnibus, and bid good bye to little Henry. When I had paid my 6d., I saw that the boy with the box was getting down from the outside—and, after much trouble, the box was lifted from the roof.

"Three-pence more," said the conductor.

Boy. What for?

Conductor. Box.

Boy. I asked you how much, and you said 6d.

Conductor. But you didn't say that you had a box; you ought to have told me.

Boy. And you didn't say, when you saw the box, that I must pay any more. You ought to have told *me.*

Conductor. Well, you can't have your box without paying 3d. The rule is, "Fare 6d. without luggage."

So the box was put on the roof again, and the omnibus went on. The boy ran by the side of the wheels, until he found a policeman. Then I saw them standing on the pavement a long way off. The policeman was being "judge," and they were telling him all about it; but I could not stay to see which one gained the 3d.

Willie. They were both wrong. The boy was *afraid to speak the truth*, and say he had a box, because he did not want to pay more money. The conductor, too, did not like to say he must pay 3d. more, because he thought that perhaps the boy would not ride.

P. Yes. He was a foolish boy. I dare say he thought this to himself—"It is wrong to *say* anything that is not true—but *there is no harm in hiding* the truth."

Ion. That was why he kept the box back in the shop, when he asked the Conductor how much. It was just as bad as saying that he had not any box.

P. I heard, yesterday afternoon, the rest of that boy's history. He had to carry the box to Spitalfields, which was a long way off. It was very heavy, so he asked a countryman to help him. "How much," he said, "will you charge me?"

Countryman. To Zbidel-veelds?—Tharts not vurr. It's ony at the end ov Zun Ztreet. Zay voor-bence—thart worn't ert ye—and Oy'll take him.

Boy. Very well.

Countryman. He's a mighty evy box, Measter. I sharn't be zorry when I gets to th'end ov Zun Strit. Oh! here's th'end! Oy'll carry him cross the Rod for ee.

Boy. Oh, you must carry it further yet! You said you would take it to Spitalfields for 4d.

Countryman. Weal! and aren't this Zbidel-veelds? Didn't thee zay it wor at th'end ov Zun Strit?

Boy. No. *You* said so.

Countryman. Weel, and *thee didn't zay 'tworn't here.* When thee saw Oy didn't know, thee should ev tould me.

W. Yes, he was hiding the truth again.

Countryman. Weel, Oy worn't carry him noa furder. Zo, give me my voor pence! D'ye he-e-er! Oy'll zit dune here upon him until ye pay me.

Boy. No; you must first carry it to Mr. Smith's, the draper's.

Countryman. I tell 'ee I worn't *goo* theer. I zed—I would carry un to *the end of Zun Strit*—and Oy'll carry him back to t'other end if ye like—but, Oy worn't go no furder.

At last the Boy was obliged to find another policeman, and it was then agreed that he should pay the Countryman 6d. instead of 4d.; so, after having wasted a quarter of an hour, they set off again for Mr. Smith's.

W. What a great deal of trouble for two-pence!

P. "Past 4 o'clock," said the warehouseman. Your master must be a very unpunctual man, for he sent you too late last week. We can't take in country parcels after 4 o'clock, you *know* that.

W. Did he say that it was his own fault, and not his master's?

P. No. He was afraid, and hid the truth again.

Countryman. Thare noo. Yu're too late agan. Thee must go back. Oy shall wornt zixpence moore.

"Perhaps," said the warehouseman, "you had better leave it at the public-house over the way, and they will send it here to-morrow." So they left it there, and went away.

His master told him that he had been gone a long time—but, as *he did not ask him* about the box, the boy thought he would not say that he had been too late.

W. I am quite sure it would have been better for him to have told him without asking. He would have been happier in his mind.

P. Yes. So it appeared—for the box was not delivered after all. Four days after, his master showed him this letter, and asked what he had done with the box.

NORTHAMPTON,
Sir, 12*th May*, 1850.

We received on the 4*th inst. your invoice for the silks ordered* (52 14 0) *but are surprised that the goods have not yet come to hand, and are much troubled by the delay.*

Trusting that they may be duly forwarded on the receipt of this,

We are, Sir,
Your obedient servants,
GREEN, BROWN, & CO.

Then the truth which the boy had been hiding came to light. The box had been left at the public-house, and forgotten!

W. What was done to the boy?

P. His master made him go again and deliver the box; and then, I am sorry to say, he sent him away. He said to him—'*It is just as bad to hide the truth, as to speak an untruth.*'

L. He was not a very kind master, I think.

P. Yes he was, Willie. It was very kind of him to turn him away—just as I told you the other day, it was very kind of *me* to correct you when you were not good. Some people would not have taken the trouble, and would have allowed you to be bad

W Yes, I am better now.

P. And so is the boy. He looks very sorry, and goes up and down the streets asking for a situation. He called at my office yesterday, and when he told me the truth, and all his faults, I promised to call on his master, and ask him to try him again.

Ion. I am so glad—because I do not think he was a *very* bad boy. He only hid the truth because he was afraid.

P. Well, Ion, it is right not to judge him too harshly. But he was a foolish boy. It is *very silly* to fear the truth. Never feel afraid of Truth. Speak it out plainly at once, and it will be *sure to do you good* at last.

Lucy. Yes. If the boy had said the Truth—that the box was left at the public-house, it would have seemed to do him *harm*, because it would have made his master angry with him;—but afterwards, it would have done him *good*, because it would have made his master trust in him.

W. And it would have done him *more* good than harm after all, if he had not been afraid of it.

P. Now what "Lesson" can we make about him?

Lucy. I have been making it in my mind. IT IS WRONG TO HIDE THE TRUTH BECAUSE YOU ARE AFRAID OF IT.

P. Why?

L. Because it is a cowardly way of telling a lie.

W. That is why it is *wrong*—I'll tell you why it is *foolish*. Because, when you hide it, *it hurts you.* See what trouble the poor fellow had with his box—three times.

P. Yes; and what was worse, he gave quite as much trouble to others. Remember this, Willie, when you grow up to be a man, and to be in business. I know some men who have this habit, and they are very troublesome people. I never do any business with them at my office. If they sell me anything, they never tell me all the truth about it, unless I ask them. I am almost sure to find that there has been some mistake; and then we have to waste time in disputing, and go over all the business again, from the beginning—just as the boy had to do with his Box.

MOLLUSCOUS ANIMALS.

Willie. Run up stairs, Lucy, and get your shawl. We are all going into the fields with mamma, to learn about an animal.

Ion. Willie, I'm going to walk with little Ada, so you have my hoop. Mamma has gone up the long path to the back gate, and Fan is running after her.

W. Come, Lucy, we are to lock the gate after us.

Ion. Mamma! we are first; Ada is over the stile; and oh, it is so pleasant! we mean to have a roll on the grass. Look at the sun, and the blue sky, and our old seat, and the sheep, and the buttercups, and the butterflies!

Lucy. What animal are we to learn from, mamma?

Mamma. Any one you please. Go, each of you, and find one in the field.

W. Make haste, Lucy! I shall look in the hedges.

M. Here comes Ion. Well, sir, what have you found?

Ion. A frog.

L. And I have a grasshopper in my handkerchief. Why, here comes little Ada, crying. What is the matter?

Ada. Oh, please Ma! de s-e-e-e-e-p would'nt tome, and I did tall to him!

Willie. Ah! ah! ah! ah! ah! I have found such a beauty! You can't see his eyes, nor his nose, nor his ears, nor his legs, nor his head, nor his tail. Guess what it is! There was a long piece of blackberry bush sticking out from the hedge, and it seemed rather heavy—it was swinging up and down in this way,—and when I looked underneath there he was, sticking to a leaf.

Ion. Oh! that's a snail—please, mamma, let us hear about it.

M. Then fetch a dock leaf for it, and sit down on the grass. Now, all look at it, and tell me what you observe.

Ada. It is round.

M. Part of *its shell* is round, Ada, but not all of it.

Ion. I see something! slime, isn't it? Look, it is spitting. It is coming out.

W. And it is coming out, without any legs.

L. And I know something—*it is like the butterfly, because it has not any bones.*

M. Stop. Let us think about that—NO BONES! You know why you have bones?

W. Yes; they are to keep us in shape, or else we should bend sometimes.

Ion. How we should bend in windy weather! just as my new kite did. I'm going to put a strong *wooden* bone to my kite—a backbone—to keep it in shape. The body of the snail is kept in shape by its shell.

M. Not exactly; if a snail were taken out of its shell, you would find that its body would still keep in shape—look! it is crawling on the leaf with part of its body out.

L. I see now; it has a *skin.*

M. Yes; and *so have all living things*—but that skin is rather more thick and elastic than yours. It is called *a mantle.*

W. Ada has a mantle.

M. But this one is better than Ada's. It is this mantle which keeps its body in shape.

L. It is better than velvet, it is so glossy.

Ion. It is only the slime which makes it shine—that is not nice!

M. If the snail could tell you, Ion, it would say it is *very* nice. The slime contains much lime and sticky matter, and with this slime it makes its shell. If its shell were broken, it would mend it with thin layers of slime. The crab, which you know is a jointed animal, often throws off its shell.

L. Just as the caterpillar changes its skin. I suppose the crab's body grows, and the shell does not, and then the shell is not large enough to hold it.

M. Yes; and in its stomach you may find little balls of lime, with which it makes its new shell.

Ion. What sort of blood has the snail?

M. It has white blood, like the butterfly. And there is another difference. When you have been running, how does the blood in your cheeks make them feel?

Ada. Warm.

Ion. I'll feel if the snail is warm. Oh, mamma, he has walked to the end of the leaf! Yet his body is quite cold. Is its blood cold?

M. Yes.

L. That makes two differences. Our blood is *red* and *warm*—the snail's is *white* and *cold.*

W. And I think my blood would be cold too, if I were to walk in so idle a manner.

M. No, it is not idle. All animals of this kind move very slowly; they can neither hear, nor see, nor smell much, but they are not idle *when they eat:*—they eat enormously.

W. I remember them—on the peach-trees last year!

L. Mamma, you said yesterday, you would tell me what the snails do in the winter when they have nothing to eat—and where they go to.

M. I will, another day, but we must not stop to talk any longer; it is just dinner-time.

Ion. But, Mamma, I do so want to know about its *horns,* and those two specks at the ends.

W. And I was going to ask how it walks without legs.

M. It has a foot. The broad flat piece of flesh on which it walks is its foot. Let us now count up the principal things we have learned about it.

L. 1st. The snail's body is very soft.

W. 2nd. And has no bones, but is kept in shape by a thick skin called a "Mantle."

Ion. 3rdly. Its blood is white and cold.

Mamma. Now, Ada, say the fourth part after me.

Ada. 4thly. "It neither moves about, nor smells, nor hears much, but spends its time in eating and sleeping."

M. The principal thing to be

noticed in the snail is its soft body, and all animals with these four distinctions are called *soft-bodied animals*. Now stand in a row, all four of you, and repeat the lesson from memory.

LESSON 3.—*The Snail, and many other animals, have*

1. *A* BODY *which is soft; having no* FRAMEWORK, *but a thick skin called "a mantle."*
2. BLOOD *which is white and cold.*
3. *No real* LIMBS. *and therefore*
4. *Very little power of motion, although they have a great propensity for eating.*

Such animals are called SOFT-BODIED ANIMALS.

M. Tell me another soft-bodied animal?

L. A slug.

W. A periwinkle.

Ion. A mussel.

Ada. A s-e-e-ep.

M. No, Ada. Ask Ion, and he will tell you, as you go home, why we do not call the sheep a soft-bodied animal. See which of you can find out a large number of these animals by next Tuesday.

L. I'll try and find six.

Ion. I'll find out ten.

W. I'll find out a *hundred!*

To grass or leaf, or fruit or wall,
The snail sticks fast, nor fears to fall,
As if he grew there, house and all
Together.

Within that house secure he hides,
When danger imminent betides,
Of storm, or other harm besides
Of weather

Give but his horns the slightest touch,
His self-collecting power is such,
He shrinks into his house with much
Displeasure.

Where'er he dwells, he dwells alone,
Except himself, has chattels none,
Well satisfied to be his own
Whole treasure

THE ROMANS.—JULIUS CÆSAR.

W. Shall we hear of a king today, papa?

P. Yes, of an Emperor. Oh! once there was such confusion in the Island, and such running about from place to place. From one forest to another, from mountain to mountain, away went the messengers! Through the valleys, across the lakes, the cry was, "Get ready your arms!" "Drive the sheep and cattle into the woods!" "Bring forth the chariots!" and in a very short time many large oaks were felled, and were piled up at the entrance to the woods, as barricades to protect the cattle.

The corn was hastily cut down, and gathered in. The fields were laid bare. And, from far distant tribes of Britons, there hurried across the country warriors with swords, iavelins, arrows, and spears. They were all going to one place; and, if you had gone with them, you would have heard, as you came near, a burr of wheels, and a trampling of horses: and, when you had come in sight, you would have seen crowds of blue men.

W. *Blue* men, papa?

P. Yes, for they used to stain their bodies with the juice of a plant called "Woad," to give themselves a terrible appearance.

There you would also have seen long rows of chariots and horses moving to and fro. These chariots had scythes fastened to their wheels; and, whilst the horses dragged them along at full gallop, up steep and awkward places, the drivers would run along the pole to which their horses were fastened, or would leap on the ground, and quickly jump back to their places. Then the warriors in the chariots would brandish their spears, to show how they meant to *fight* soon.

W. Ah! They were "exercising," I suppose. Who was their captain?

P. Each tribe had its own captain, or leader. The leaders of the different tribes had met; and, according to their custom, had chosen a commander-in-chief. His name was CASSIBELAUNUS.

L. But what was the matter, papa, that the people should make so much bustle all at once?

P. CÆSAR had come again.

L. Who was Cæsar, that he should frighten them so?

P. I will tell you. At the south of Europe, a long way from England, is a country called ITALY. (You can easily find it on the map.) In Italy was a place called ROME. Rome was the most wonderful and powerful city in the world, for the Romans had conquered nearly all the nations they had heard of; and now they thought that, of course, they ought to conquer Britain too.

L. Why, papa?

P. You should have asked JULIUS CÆSAR who so frightened the Britons. He was one of their great Generals, and had already killed thousands of people in Europe. He had two reasons for coming to Britain. 1st. He said that the Britons had been fighting against him when he was conquering the Gauls—which was true. 2nd. He had heard from some merchants that the Britons had large mines of tin and copper; rivers with pearls in them; and rich lands, which would grow corn; so he thought he would go and take them for himself.

W. What robbery!

P. People would not call that robbery, Willie; they would call it "*taking a prize.*" We will talk about taking prizes soon.

However, Cæsar determined to

conquer Britain. He had been there the year before, but had lost many of his ships in a storm. This time, he came with eight thousand ships, and galleys rowed with oars. The ships were full of foot-soldiers and horse-soldiers. They passed the tall white cliffs at Dover, where they had met the Britons the year before, and arrived at a shallow place. Here the soldiers landed in regular order, following the bright eagles, which the Romans used for standards.

There were many battles between Cæsar and Cassibelaunus. The Romans must have had some very hard work, for Cæsar has written in one of his books, that when the chariots were brought, his men were "astonished and confounded at this new way of fighting." But in course of time Cæsar drove the Britons before him. He plundered their villages, and set them on fire. He destroyed their pretty farms, killed the cattle and sheep, and thousands of the Britons themselves. He forced others to hide themselves in the woods and marshes; until at length they laid down their arms, and agreed that every year they would pay the Romans a great deal of money, as tribute.

Ion. I think I know now why Cæsar fought with them. He wanted their money.

P. That was certainly one reason; but when Cæsar went back again to Rome, the people made what they called "a triumph" for him, and called him *a conqueror*. They said he had done a good thing, and that it was all A GREAT GLORY !

W. I wonder whether GOD said that it was a glory. How many thousands of spirits must have come to him from those dead soldiers! They must have told him all about it.

P. There is not time to talk on this subject now. I do not think you know yet what "a glory" is. Let us set to work, and make up two lessons—the lesson for last Wednesday and to-day.

W. Now, Lucy, write down—

LESSONS 2 AND 3.*

(4.) *In* KENT, *the part of Britain which is opposite France, the people lived in an agricultural state; they were* HUSBANDMEN.

(5.) *The poor Britons did not know the true God, but were taught about false gods by Priests, called* DRUIDS.

(6.) *The Roman General,* JULIUS CÆSAR, *came over to the Island of Britain to conquer it.*

(7.) *The Britons bravely resisted the Romans, under their general,* CASSIBELAUNUS; *but, at last, they were conquered, and made to pay tribute.*

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* The children who read these chapters will find it very easy to *commit the lessons to memory as they proceed.* They should then repeat them, from the beginning, to their parents, once a week.

BE you to others kind and true,
As you 'd have others be to you;
And neither do nor say to men
Whate'er you would not take again.

BUTTER.

Ion. Mamma, there is a fine object for our lesson to-day. Shall I begin?—Butter is *sticky*.

W. And it is *very* greasy.

Ada. It is yellow.

Ion. It is opaque.

Lucy. It is soft.

W. It is hard—in the *winter* time.

Ion. It is liquid—in the *summer* time, and when it is near the fire.

Ada. It is nice.

Ion. It is edible.

L. It comes from an animal—so it is an *animal substance.*

W. It is nutritious.

Mamma. Not *very*. Proceed. You have *five* senses. You may *see* it, *feel* it, *hear* it, *taste* it, and *smell* it.

Ion. Oh, let me *hear* it, mamma. I do not hear anything. It is *quiet.*

M. Yes, we all know that, but quietness is not a *quality* in the butter.

L. It has a *smell*, mamma.

M. It has a little smell. Tell me some other things which have a smell.

Ada. The flowers growing in the long glasses in the parlour-window.

Ion. The hyacinths, she means. Roses have a smell. So has lavender water. Hair oil has a smell, mamma; what do you call things when they have a smell?

M. We say then that they are *odorous.* Let me hear if one of you can count up *twelve* odorous things?

L. I will try. Butter is odorous. So are flowers, and the hay in the fields. Honey-soap. (*W.* And yellow soap too.) Onions. Pomatum. Cedar-wood. Turpentine. Morocco leather. (No, *all* leather.) Medicine. Peppermint-drops. Smoke. Lucifer matches, and pastiles.

Ion. And linen is odorous, if you scorch it by the fire.

M. Now let us return to THE BUTTER. Observe it more carefully still. It has other qualities. Feel it.

Ion. It is *smooth.*

L. I think I said that it is *soft?*

W. Yes, you may see that it is soft, for there is an impression of a swan on it, and I could make an impression on it with a seal, just as you can on soft sealing-wax.

Ion. But you cannot make an impression on *all* soft things. Wool is soft, so are feathers, and sponge, and cloth, and fur; but if you make an impression on these things they will not *keep* it—they will return to their own shape again.

W. Mamma, what must we call soft things which *will* keep an impression?

M. You may say that they are *impressible.* Try to think of some impressible substances.

W. Soap is impressible. So is Sealing-wax, and Gutta Percha, when it is soft, Wax, Clay, Plaster of Paris, and Putty. The mould in my garden is impressible. Last night Lucy made an impression of her foot on it, by accident. Wafers, too, are impressible, so is Dough, and Tallow

L. I have thought of another quality. The plate on which the Butter is placed,—if you were to leave it on the table for a year it would not change; but the butter, in less than a year, would become very bad.

M. Yes, its particles would separate from one another, it would change, or *decompose,* as we say. Everything which has had life will decompose, or *perish.* So you may say it is *perishable.*

L. But, Mamma, what is it called because it has not any life *now?* You do not say it is *dead*, do you?

M. I must not tell you now. Suppose you *learn* the qualities you have discovered already. Who can repeat them?

Ion. I can, mamma. I wrote them down on a piece of paper as we found them out. Butter is sticky, greasy, yellow, opaque, sometimes soft, sometimes hard, sometimes liquid, nice, edible, nutritious, and an animal substance. It is odorous, smooth, impressible, and perishable.

M. Now let us make its *history*. What must we have before we can make butter?

W. A Cow.

Ion. Yes, and many other things: hands to make it with. We should have to coax Mrs. Cow to give us milk.

M. And if you were to examine the milk carefully, you would find that one part is watery and sweet, and another part oily. When the Farmer wishes to procure *butter* from the milk, it is poured into a broad pan, and left there for twelve hours.

You know that oil is lighter than water, so the oily part of milk, being very light, rises to the top, and when the dairy-maid comes in the morning, she finds a *thick coating* on it—covering all the surface—and she calls it *Cream*.

She then skims the Cream from the Milk, and puts it in a long, round-shaped box, called a CHURN. Here she shakes and stirs it into a froth, and in about half an hour all the watery particles in the cream separate from those which are oily. The watery part is called *Butter-milk*, and is given to the Pigs, and the oily part is called *Butter*, and is given to—

W. Good boys like Willie.

Ion. Which are the principal butter-making places, mamma?

M. London is supplied from different parts of England, chiefly from Buckinghamshire, and part of Oxford. It is also brought from Dorsetshire, Devonshire, and Cambridge; it can now be sent by Railway, from almost any part.

The salt butter, used in the kitchen, is not generally made in England. It is packed up in tubs, which are *imported*.

W. What does that mean, mamma?

M. "Imported" means brought from foreign countries, into one of our ports. I will see if you can tell me where it is imported *from*. The ship which brings it has to cross the English channel; it comes from a country not far from France, where the land is, in some parts, lower than the sea.

W. Then why does not the sea overflow it, and drown the people?

M. That I will tell you some other time. In that country there is fine pasture land, and there are many Cows; so the people not only make butter, but a very great number of round cheeses—you may see them at the cheesemonger's—they look like large balls.

Ion. Oh! they are *Dutch* cheeses. The Dutch people live in HOLLAND. I remember now,—I have often heard the name—Dutch Butter.

M. Now make up the lesson.

No. 3. BUTTER.

BUTTER *is an animal substance, which is sticky, greasy, yellow, opaque, sometimes soft, sometimes hard, and sometimes liquid. It is nice, edible, nutritious, odorous, smooth, impressible, and perishable.*

It is made from the oily part of milk, called Cream, by stirring it very quickly in a churn.

Butter is brought to London from Buckinghamshire, part of Oxford, Dorsetshire, Devonshire, Cambridge, and other places. Salt Butter is made in HOLLAND

FLUIDS.—CALORIC.

Lucy. It is half-past eight by the hall-clock. I wonder whether papa will give us our lesson before he goes.

W. Yes, he will be here soon; but there is a gentleman with him in the parlour.

Ion. I have been trying to make a Physical Geography drawing—Papa called it a "scribble"—but I think ADOLF would like it if he were to see it. You see the black-looking globe—that is the *solid* part—the EARTH. Some parts of the outside are higher than the others. These are the dry land, where men and animals live.

Then, the part which is not so dark is the *liquid* part—the WATER which flows over it.

L. You should say, Ion, that it flows over a *great part* of the earth. You have forgotten the dry land again. I have read in my geography-book, that, if you were to divide the surface of the Earth into three parts, *two* parts would be covered with water, and *one* part would be dry.

Ion. Now look at the other part of my picture. This outside part, which I have made very light, is the *fluid* part—the AIR. It is very *thin*. I could hardly make marks which were light enough—and Papa says that it becomes thinner, and thinner, the farther it is from the Earth; so that, if a man could go up very high indeed, he could not live in it.

W. What! Too thin for him to breathe! I should have thought that where it is *very* thin, he would breathe more easily. I know that when air is *thick*, on foggy days, it is very hard to breathe.

L. But the air becomes thinner, because it has so few particles;—perhaps, in time, there would be no particles at all. What would you do then?

W. Then I would not take the trouble to breathe. What is the use of air, I wonder, going up your nose and down your throat all day?

Ion. It must have *some* use. You don't suppose that God would make it for nothing, do you? Papa will tell us, I dare say.

W. Oh, I wish papa would come! We shall be late at school, and shall have to take a note with us. Yesterday, I thought of something that will puzzle you. What is butter, a solid, liquid, or fluid?

Ion. A *solid*, to be sure.

W. But, if you put it near the fire?

Ion. Oh! then it would be *melte* butter. I did not talk about that.

W. But in summer it melts, and becomes *oily*. You call it "butter" then.

L. It is one of those substances which change easily. In the winter it is solid—in the summer, liquid—and if you make it *very* hot, put it in a spoon over the candle, it will burst into a flame.

W. Then it is fluid, I suppose. I wonder whether flame is a fluid. I will ask papa.

Ion. I know of something else which you often find in three different states. It is *generally* liquid, so that we can swim in it; but, if you heat it, its particles will spread over a great space. I saw a copper half full of it once—and, when it was made hot by the fire underneath, its particles rose up in the air, like smoke, and spread themselves all over the washhouse.

W. Ah! To get away from the heat, and cool themselves, I suppose?

Ion. I do not know, but they

travel all over the room, so that we could hardly see the washerwomen,—only just their nightcaps now and then. In *winter* time, however—when there is not much heat—the particles of this substance keep close together.

W. To keep each other warm, I suppose!

Ion. They are so close together, that they form a *solid* substance. Then men come and walk on it, and slide, and skate on it, and tumble down on it. So, you see, this substance is sometimes *liquid*, sometimes *solid*, and sometimes *fluid*. What is it?

W. Why, WATER, of course! I wish that gentleman *would go.* We shall *not* get any less——Oh, I have been thinking something else! Do you know *our bodies* are made up of solid, liquid, and fluid parts—just like the Earth?

Ion. Yes. I am made so. My flesh is solid; my blood is liquid; and my breath is fluid.

W. And your bones are *very* solid. When a thing is very solid, you remember, it is called *hard*.

L. And you have other parts more solid than your bones.

W. Yes, my *teeth*. So, if I were to write down a list of my parts according to their hardness, I should put down 1st, my TEETH—*very* hard; then my BONES—*hard;* then my flesh—*solid*.

L. No, you would not write *flesh* next. There are some parts not so hard as your bones, but harder than your flesh.

W. Oh, my NAILS. And I have something else harder than flesh. GRISTLE, or *Cartilage*, as papa calls it. Then our SKIN is the next hardest part. Then our flesh;—then the blood.

Ion. No; there is something else to some after "flesh"—it is a little thicker than blood, but not quite liquid. It is oily.

W. Yes, to be sure—our FAT. And then we have real oil, you know, between the joints of our bones, and that is thicker than blood. After OIL is the *blood*. Then there is the perspiration which we have on our faces, and the tears which run down our cheeks;—and then our BREATH. So, as Papa does not come in, we will sit down, and write a list for him of our solid and liquid parts, in their regular order. Now then—

Our Teeth are *very* solid or *hard*.
Bones „ solid.
Nails „ less solid.
Gristle is less solid.
Skin „ less solid.
Flesh „ less solid.
Brain „ less solid.
Fat „ less solid.
Oil „ liquid.
Blood „ liquid.
Water „ liquid.
Breath „ fluid.

There! Now we know how much our different particles hold together. Papa is a *good* man. He has waited until we have finished it. See, here he comes!

P. We shall not have much time this morning. I am going into the city almost directly. You remember what I told you about Adolf? How he thought he would learn about solids, liquids, and fluids. But I only told you of *one* fluid. He found two more fluids thinner than the Air.

W. What were they, Papa?

P. One fluid he noticed, not by seeing, hearing, or smelling it—but by *feeling* it. In the summer-time, he felt it coming from the sun;—and, when the winter came, and the Sun would not send him much of this fluid, Adolf sent the servant for some sticks, and coal, and a lucifer.

W. And some *paper*.

P. Yes, and made a fire. Then this fluid came out from the fire, and spread itself all over the room. The fluid was so thin that it could find its way almost everywhere—in between the particles of the legs of the table, and it made them hot—through the particles of Adolf's shoes, to warm his feet—and, when he placed a piece of solid butter before the fire, this fluid managed to get between its particles, and *separate them*, so that they fell down all over the plate, and the butter was *liquid!* When the servant placed the kettle on the fire, the fluid managed to go right through the copper into the water, and—

W. Oh, Papa, we have been talking about that fluid! It is HEAT.

P. That is not exactly its name. When Adolf felt so much of this fluid in his body, he said, I feel *hot*, but "Heat" was not the name of the fluid that made him hot, it was the name of the *feeling* in him.

Ion. Oh!

L. But what is the fluid called, papa?

P. It is called "CALORIC." That is quite as easy a name to remember as "Heat."

W. Yes, it is not a hard word, it has only three letters more;—I like always to have the exact name for anything.

P. Ah! it is a wonderful thing, this Caloric; and it makes strange changes on the earth. So thought ADOLF. When it is gone away, we say that it is *Cold.* The clouds change into Snow. The water into Ice. Drops of rain change into Hail. The roads become hard; and we call the time WINTER.

W. Yes, all this happens because the particles of these things hold close together. I see the rule now. *When there is no heat—caloric, I mean—the particles of a substance hold close together; when there is much caloric, it gets between the particles, and they spread out—separate.*

P. That is the right thought, Willie. In the next lesson, I will teach you to say it in better words. But I will tell you of some more changes which caloric makes. After the winter, Adolf saw the sun come again with more bright caloric.—It woke up the trees from their long winter nap, and tempted them to open their buds. It made the place warm for the birds to come back, and soon they came, and sang "Thank you." It found its way through the shells of the Snails, and warmed their poor backs—and when the rain came, and sprinkled their faces, they shook themselves out of their sleep; it woke up the Grubs, and Hedgehogs to eat them; it woke up the Squirrels, the Dormouse, the Bats—and all these people said it was SPRING.

W. Well done, fluid Caloric!

P. And then the Sun came, in his mighty strength, and showed how good-natured he was. He shed his caloric all over the fields, and cheered up the grass and the corn.

W. Yes, that was SUMMER time.

P. This caloric did good in the AUTUMN time too. It made the green corn turn yellow and brown;—and the apples looked rosy and red.

At last the Sun seemed to think he had given the Earth almost enough caloric;—so he left off work earlier every day. The trees, too, seemed to be tired—their roots would not work to give them more sap—so they dropped their leaves on the ground. And then came old WINTER again.

So you see that Caloric makes great changes on the earth; and in order to understand Physical Geography properly, you will have to learn about this fluid very carefully.

No. 3.—ANGLES.

P. Well! have you found out how to tell me when lines are parallel?

Ion. Yes; we have all agreed about it. This is quite *true*, and you can't deny it:—

When two horizontal lines are at an equal distance from each other in all parts, they are PARALLEL. We have made two lines.

Now, if you measure from any part of the top line—either at the beginning, the end, or the middle—you will find it to be always at exactly the same distance from the bottom line. So the two lines are *parallel.*

W. And, now, we can tell you why two lines may have the same *direction* and not be parallel. These two are in the same direction, but they are not in the *right position,*

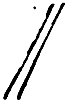
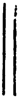
because they have changed their position, their *parts*—the beginning, middle, and end—are not at the same distance from each other. See how much nearer what I call the *inside* ends are to each other than the outside ends.

Ion. So now you see, papa, why we say they must be at an equal distance from each other *in all parts.*

P. But you have forgotten to say that they must be in the *same direction.*

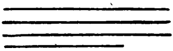
L. No, we did not forget it, papa, but we thought we *need not* say it; because, if they are at the same distance from each other in all parts, they *must* be in the same direction.

Ion. We made one mistake; I need not have said that two *horizontal* lines are parallel.

W. No, I thought of that! because *oblique* lines may be parallel,  and so may perpendicular lines. See! 

L. Yes; it does not matter in *what* direction the lines are placed, so long as they are in the *same* direction.

Ion. And I ought not to have said "*two* lines," because *any* number of lines may be parallel, so—



just like the lines in your ciphering book.

P. Now let us begin again with two lines. These two are *not* parallel

so you may call them *non*-parallel lines ("*non*" is the Latin word for *not*). Suppose you make each of these lines a little longer at both ends.

L. Then they will make a *point.* Look!

P. Yes, the *lines* make a point; but what do you call the space between the lines?

W. Do you mean the space *inside* the lines, papa? I call that *a corner.*

P. Well, that is a very good name for it, but not quite correct. I will give you a better one—call it an *Angle.* Now tell me what is an angle?

W. Stop, let me think a minute, papa. Here it is. *An angle is the corner between two lines—the space.*

Ion. Or, here is a better word. The *opening* between two lines; for they begin at a point, and open wider and wider.

L. Well, now I will say what it is *exactly: "An angle* is the opening between two lines which meet in a point."

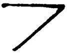
P. If you would like to remember more names, I will tell you some. The point of the angle is called its *vertex;* and the lines are its *legs.*

L. Thank you, papa; I will remember that. An angle is made of vertex and legs.

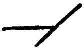
P. How many angles do you think you can make with two lines?

W. One, I suppose.

P. Think again, Willie. Here is an angle.

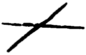


Now I will make its oblique line a little longer.

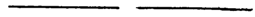


W. Oh! the two lines have made *two* angles. Please let me make the horizontal line a little longer, to see what it will do. Why, there are *four* angles!

Ion. Yes, but they cross each other. Well, that is worth remembering; I will make a rule about it. *"When two straight lines meet, they form either* 1 *or* 2 *angles, and when they cross each other they form* 4 *angles."*



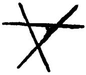
W. There! I have caught you again. You should have said two straight lines in *different* directions; for, see—



directly these two meet they will form *no* angles—not 1 or 2.

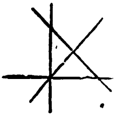
P. Let me see how many angles you can make with THREE LINES.

Ion. I have made 12.

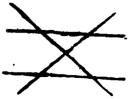


P. Now take your slates, sit down, and try how many angles you can make with FOUR LINES.

W. I have made 18. See!



L. I have made 20.



P. You may arrange them in a better way still, and form 24 angles. Suppose you try and do so before next Saturday. Try, now, and see how many angles you can make with FIVE LINES.

L. I have made 37.

P. If you try, you will find that you can make 40; and with *six* lines you can form 60 angles. There will be some work for you—try and do these also before next Saturday. Now, make a lesson. Indeed, we must make *two* lessons, for we did not make one last Saturday.

Lessons 2 *and* 3. LINES AND ANGLES.

(2.) *Lines have three different directions,* the HORIZONTAL, PERPENDICULAR, and OBLIQUE.

(3.) *When lines are at an equal distance from each other in all parts, they may be lengthened to any extent without meeting, and are* PARALLEL.

(4.) *When lines which are not parallel are lengthened, they will meet, and will form one or two angles, or they will cross and will form four angles.*

Three lines will form 12 *angles.*
Four lines will form 24 *angles.*
Five lines will form 40 *angles.*
And Six lines will form 60 *angles.*

P. Tell me any object you may observe in this room which has *four* angles.

L. The panes of glass; the panels of the door; the ceiling; the floor; the books on the cheffonier; the dining-table; some of the picture-frames; the desk, and mamma's workbox. There are plenty of things with *four* angles, but I cannot see any with *five* or *six*.

THE BRITON'S FIRESIDE.—(1850.)

TWERE vain to seek on foreign shores the comforts of a "home,"
That name is less familiar as farther on we roam;
No other clime can boast the peace, the calm, and tranquil pride,
A Briton feels when all is mirth around his fireside!

'Tis there the old forget their age, and gambol with the young,
To mingle in the merry dance, or join the social song;
Oh! if from thought thou'dst turn away, some rankling care thou'dst hide,
Go, imitate the Briton's lot, and learn his fireside.

Yet not alone in gayer hours this social peace is known;
It lives and blooms when all the sweets of passing mirth have flown:
Yes; there the father mildly checks the faults he cannot chide,
And chains the feelings of his child to that dear fireside.

Say, who can view the happy few, in innocence and mirth,
Assembled round the very hearth which sparkled at their birth;
Who, launched upon life's troubled sea, have struggled with her tide,
And not proclaim the blessings of a Briton's fireside?

Long may the Hand which guards our isle avert the luckless day,
When from her shores such happy scenes must fade and pass away!
Long still may Britons boast their peace, and feel an honest pride,
That they alone of all the earth possess a fireside!

W. H.

PLEASANT PAGES

FOR THE

4th Week. MONDAY. Moral Lesson.

TRUTH.—THE WATER-CRESS MAN.

WATER CREE-E-E-E-E-E-SES. Buy my WAT—

W. Oh! There goes good old "Grey-coat," droning along, with his black and white dog behind him! He has stopped at No. 4, over the way. See! his basket is quite empty; there is nothing left but the cloth.

Ion. Yes; I often meet him as I come home from school, and his basket is nearly always empty. I wonder how he sells his cresses so fast.

P. I can tell you. He owes it all to "Truth." But he shall tell you himself. You know he lives in one of my cottages. I am going this evening to see him, for he wants me to let him a piece of the field at the bottom of his garden, and you shall go with me.

W. Then we will go and change our shoes before tea, and get our best hats. * * * *

Ion. Papa, is that the old man's cottage? There is a pretty laburnum tree.

P. Yes. We will go in. Good evening, Edwards. I have brought my two sons and my daughter with me, that they may see your garden. I want you, too, to tell them how it is you are getting on so well.

Edwards. Yes, sir, that I will. Sit down, young master. What is your name, pray?

W. I am called Willie, my sister's name is Lucy, and this boy is my brother Ion.

Edwards. Well, Master Willie, if you had come to my cottage two years ago, it was not such a place as it is now; we were very poor people. I have had four sons. One of them is a soldier, another has gone to Canada. The eldest one, who lives next door, is a bricklayer. He earns 25*s.* per week, but, he has seven children. My youngest son, poor boy! was working at yonder railway bridge, when one of the arches fell in, and he was killed; so, none of my sons can help me.

My good dame, who is sitting on that low chair (she cannot hear that we are talking about her), she used to earn 1*s.* 6*d.* a week at making straw-plait, but now she cannot see even with her spectacles; and my daughter, who is walking up and down the garden in such a hurry; she, poor thing, is silly. So, I have no one to help me; and, although I am 67 years old, I have to help myself.

Oh, it was hard work, once! I remember, after my son died, the day when we had only 2½*d.* in the house, and I went to the pawnbroker and pawned my dame's wedding-ring to get some money to buy water-cresses.

Go on, father! said my eldest son (who came in early next morning to start me). I'll lend you this old basket: let me fasten the strap round your shoulder! There, put in the cresses, and lay the white cloth over them. Good-bye! Now, *make* the people buy them. Sing out, "Water-cresses!" louder than you can! Let me hear you begin. So, whilst other folk were asleep, I set off in the damp air,—through the Churchyard—past the Almshouses—down West-street, past the Market-place, and the Railway, until I reached the bridge, at the farther end of the High-street, when I came up the long hill.

Everywhere, I cried, "Water-cresses!" as loud as my shaky old voice would let me. They were fine cresses, so I told every one that they were *very* fresh, and that they were *the best in the town.* I sold a great many, and in the evening I sold those which were left. Every day I worked hard. I never stopped for the rainy weather, or wind, but went on, singing out loudly—"*Fine* water-cresses!"—"*Fine young* water-cresses!" and told everybody again that they were *the finest in the town.* Still, I did not earn enough money to buy us bread. I could never sell two basketsful in a day, but had to sell in the afternoon, what I had left from the morning. So, we often had potatoes out of the garden, and salt, for dinner; and tea-leaves and bread for tea. I had to sell both our chickens, for we had no barley to feed them with. I sold our eight-day clock, that warming-pan, the bedstead, and my wheel-barrow. And, oh! as the autumn came on, and the evenings were darker, it was very cold to sit here on the stones with a small fire made of sticks from the common, and a greased rush for a candle. Then, we would go to bed at seven, to save the rushlights and sticks, and would think, "What shall we do when the winter comes on, and the water-cresses are gone?" So, when the quarter-day came, I had no money to pay your father his rent.

Ion. But how have you managed to make such a difference in two years and-a-half?

Eds. Ah, young master, isn't it a difference! Look at my dame; what a clean white cap she has now—we bought a box-iron second-hand. She wears her stuff frock every day. I have bought back my eight-day clock from the pawnbroker's, and our bedstead, and the old warming-pan. We have *meat* for dinner, four times a week. There is a new piece of oil-cloth; and oh! come and see the garden. Those are my pigs—I paid a friend of my son's 1*s.* 2*d.* for a new thatch to their sty. I gave 4*d.* for this old dog, and can afford to keep him. I am going to buy some chickens, for I have 37*s.* in the Savings-bank; and I have asked your papa for a bit of the field at the back, for my son and I to grow turnips.

Ion. Well, but how did you get the money for so many things?

Eds. Only by speaking the exact truth. TRUTH has bought all this for me in two years and-a-half. It was a very little thing which made so great a difference. I left off selling the *best* water-cresses, and only sold *good* ones—that was all.

W. I don't understand that.

Eds. I will tell you. One day, your mamma asked me, "Are these good water-cresses, Edwards?" Yes, ma'am, *the finest in the town.* "But, Edwards," she said, "they cannot *always* be finer than any one else's. They are *good* water-cresses, and if you would only say that they are good, instead of saying that they are the best, you would be speaking the *plain* truth. Then, depend upon it, you would sell them sooner."

And, do you know, master William, that one word which your mamma gave me helped me to become rich, and to pay your papa his rent. I thought, as I went through the street, about the *plain* truth—and about being careful not to say *more than the truth.* So, when I remembered that my water-cresses were those which were left from the morning, I only cried out "Water-cresses," and left out the word "fine."

"Are these water-cresses fresh, Edwards?" said the landlady at the "Golden Lion." I was just going to ay, Yes, ma'am, *very*, when I stopped and said, No, ma'am, they are *good*, but they were picked this morning.

W. And did she buy them?

Eds. No, I lost my halfpenny then; but I felt that I had spoken the *plain* truth, and *no more.* So God, who looked down from heaven upon me, was pleased, and I was pleased, more than if I had had the halfpenny.

W. But, you don't think that God takes notice of such a little thing as selling water-cresses?

Eds. Ah, indeed! To be sure he does. Did not God *make* the water-cresses? TRUTH is just the same, if you are selling anything for a halfpenny, or for a thousand pounds. A thousand pounds is not greater than a halfpenny to God. He notices water-cress men, as much as Kings.

See how God noticed me. I was obliged that evening to sell my cresses three bunches for a halfpenny, to get rid of them, just because I would only say they were *good;* and, when I said that they were picked in the morning, some people would not have them at all.

W. Well, but that was not the way to get on.

Eds. Yes it was. The Bible says, "Hold fast to that which is good;" and so I did. Some of my customers, who would not buy my cresses in the evening, bought some on the next morning; for when I said that they were "quite fresh," they believed me. I never said that they were *very* good, or better than other people's, for that was *more than the truth.* When the people found this out they began to *trust* me and to believe *all* I said; and soon, I had no cresses to leave till the evening. Before the end of the week, I had saved 3*d.* The next week, I saved 1*s.* 1*d.* Soon, people gave me other things to do; they would trust me to take a parcel, or to carry back an umbrella, or to clean the windows; and when they paid me, and asked how long I had been working, I told them the exact time and no more, and they always believed me. So, the third week, I saved 1*s.* 11*d.*, and the fourth week, 1*s.* 9*d.*, and the fifth week, 3*s.* I grew richer every week, and now, you see, I sell a heavy basketful of cresses every morning and evening.

Ion. Yes. I meet you every afternoon, as I come from school, and your basket is often empty.

Eds. Well, then, you see, Master Ion, what a good thing *plain* truth is. It soon brought me more riches than all the loud crying and boasting I made. Many people think that nothing is worth so much as money. When your mamma spoke to me about truth, if she had asked me which I should have, *Five sovereigns* or the advice she was going to give me—

W. Oh! you would have asked for the sovereigns, of course. You would have thought that they were more *real.*

Eds. I dare say I should have done so: yet, you see that those words have been worth more to me than the gold. The money would not have bought half so many things, nor have made me so happy.

L. No. The five sovereigns would not have made people trust you.

Eds. Ah! and *five sovereigns would not have bought the love* of GOD. When I feel sure that God and men trust me, that feeling gives me more joy than my old eight-day clock, or my wife's new gown, or my chickens or pigs. TRUTH! oh, it's worth a great deal more than Five pounds!

L. What do you call it, papa, when men speak *more* than the plain truth?

P. It is called "Exaggeration."

L. Then we will try and remember the lesson. Lesson 3. *It is wrong to speak more than the Truth, for that is* EXAGGERATION.

RADIATED ANIMALS.

M. Well, Willie. Have you found a hundred soft-bodied animals?

W. Ah, mamma, no! Ion has found more than I have;—he has found *ten*.

M. Let me hear them, Ion?

Ion. A snail, slug, oyster, mussel, whelk, periwinkle, cockle, nautilus, limpet, and cowrie.

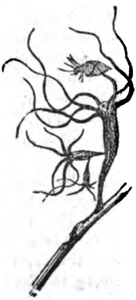
W. What is a cowrie?

Ion. There is a shell of a cowrie on the parlour mantel-piece,—with spots on it. Mamma says that perhaps we shall find some small ones next summer, when we go to Margate.

M. Yes. I hope that next year—at the sea-side—we shall very often talk about the molluscs, and their shells.

To-day we are going to notice the LOWEST DIVISION OF ANIMALS. Here is a basin of water, which I took from the stagnant pool at the bottom of the garden. If you look at this piece of straw, you will see a curious animal fastened to it. It is called THE HYDRA.

L. I see it, mamma. How it is shaking its legs about in the water! Is that the way it swims? It is like a little plant, with a number of roots to it.



M. And here is a picture of one, which I have drawn for you from one of Messrs. Chambers's books.

W. Oh! that is more curious still. See! here are three joined together, and each one has roots, just like a tree.

Ion. How this one in the water is twisting and twirling his roots about! A *plant* would not behave in such a manner. Perhaps it is mad. What fun he is making!

W. Let me see. Oh, mamma, do you know he has caught a little worm, or something? It is a very small shrimp, or a maggot.—He has twisted his roots all round it, and—— Ah! the poor worm is wriggling about so! He has pulled it into his mouth. Good-bye.—He has swallowed it, mamma.

M. Those *long* parts, like threads, are not *roots*. They are long *arms*, called "Tentacula." It did not wriggle them about for *fun*, but for *business*. It merely wanted to feel for some food. If any insect passing near it in the water should happen to be touched by one of these tentacula, there is no hope for it. It is seized, held fast, and carried into the mouth in an instant. And, yet, see how few parts the animal has! Count them, Ion.

Ion. Let me see:—(1) Its tentacula. (2) The mouth. (3) The body—and that seems to be nothing but a sort of bag for holding food.

M. And this bag is so thin, that you can see *through* it. Take this little microscope, and look.

L. Oh, mamma! I *can* see through its skin—into its stomach—and the little "shrimp" inside is moving: it is not dead yet!

M. The Hydra has a juice in its stomach—a liquid—which will soon kill it.

W. I can see *four* parts in the animal now. The arms, or tentacula, mouth, stomach, and there is something like a "sucker" at the end of it—by which it has fastened itself to the straw.

Ada. Where are its eyes, mamma?

M. It has no eyes.

W. Where does it keep its ears?

M. It has no ears, nor nose. I believe it can neither hear, nor smell, nor feel.

L. Could it not feel, mamma, if I were to pinch it?

M. No—give it to me, I will cut it up.

W. Oh, mamma! You have cut it in half. You have killed it. Is not that cruel?

M. No, my dear. I have not hurt it. It is not dead, you see. It will make *two* hydræ now.—A tail will grow from the end of this piece with the head on it, and a head will grow from the tail-piece.

L. Mamma, are you joking?

M. No: If I were to cut it into forty pieces, then it would make *forty new hydræ.*

W. How wonderful!

M. Yes, this seems very wonderful. Most of the animals in this division seem to be quite without feeling. I have read of a gentleman, who took a hydra, and with a small piece of wire, he turned its stomach inside out—just as you do with the fingers of your gloves, sometimes.

W. What did the animal say, mamma?

M. I do not think it *said* anything, Willie. It was not at all disturbed. It seemed quite comfortable.

W. Oh!

Ion. Mamma, here is a curious thing in the picture. Here is a large hydra and a small one growing out of its side, and a *very* little one growing from that one.

M. Yes; if you take notice of the picture, you may learn how these animals increase in number. A *bud* opens in the hydra's side—this grows and forms a little hydra, just as a small branch of a tree grows out of a large one.

L. I see it, mamma, in the picture, and when this little hydra has become a large one, *another* little one grows out from *its* side,—just as a twig grows from a small branch. How strange!

W. Yes, here they are in the picture. The little one, his father, and grandfather, all growing and living together. They are partners in business.

M. They do not always behave like good partners. I have read that sometimes the father and son will both grasp the same insect with their tentacula, and then fight for it. But in time they break off from each other, and each becomes a separate hydra.

L. They are very much like *plants.*

M. Yes. Do you not recollect when I said that you would find all God's works to be connected together,—so as to appear like one great chain? These are some of the *lowest* division of animals. They therefore connect the animals with the plants. There are others in this division, each one becoming more and more like a plant, until you arrive at one animal which resembles a vegetable so much, that for a long time men thought it was one. Even now, some people do not know exactly what to call it. You have the *house* in which some of these animals lived, in your bed-room, Willie. I saw you washing yourself with it. It is full of holes, made by these animals, and sucks up the water.

W. Oh, the Sponge, mamma!

L. I always thought it was a vegetable. How beautiful, that God should make a living thing which should be like an animal, and a vegetable too! It *does* seem to join the two kingdoms together.

M. I want you to notice something else in this hydra which makes it like a vegetable. Do you observe how its limbs grow?

Ion. Yes; they all grow from one part of its body—just as the branch of a tree grows from its trunk.

M. Here is an animal belonging to this division, which you know very well.

L. Yes; this is a star-fish. It grows in the same way. Here is the mouth in the centre, and five great limbs branching out from it. What a tough skin it has—like leather!

M. And do you remember when we opened a star-fish? We found something inside which looked like a framework to it. It was made of a stony kind of substance. So you see that some of this division are not quite without skeletons, like the hydra and sponge. Now let us make a lesson about these animals.

LESSON No. 4.

The 4th Division are the lowest kind of animals, and seem to connect the animal and vegetable kingdom together, for,

1st. *Their limbs all grow from one centre, like branches from the trunk of a tree.*

2nd. *They seem to have no skeleton, or regular shape, although the star-fish and some others have a tough leathery skin, like the bark of a tree.*

3rd. *They may be increased in number, by dividing them into many pieces.*

W. Just as I increased my currant-bushes, by cutting "slips."

4th. *They also increase in number by growing from each other.*

W. Just as Lucy's rose-bushes have suckers growing from the same root.

5th. *They seem to have no power of seeing, hearing, smelling, nor feeling, but altogether live and grow very much in the same way as plants.*

6th. *These animals are called* BRANCHED ANIMALS.

THE ROMANS.—CARACTACUS.[1]

W. We are waiting for our History Lesson, Papa. Was it *really* a glory for Cæsar to kill those poor Britons?

Ion. And to come over on purpose to rob them, and to burn their villages?

P. Well, Willie, *I* do not think so, but there are hundreds of people even now who call such actions "glory."

W. But if a boy in our school knew more about fighting than any of the others, and then would always be "knocking them about," because they had not learned how to fight, we should call him a *coward*.

Ion. And if he fought the others on purpose to take away all they had?

W. Then we should call him a "sneak"—not a conqueror.

Ion. Or, papa; you know that we have, each of us, a piece of garden. Now, if Willie, because he is the strongest, were to kill Lucy and me on purpose to take our gardens away from us——

W. Oh! how can you talk so, Ion!

Ion. But, I only say *if* you should do so.

W. Well, I should be hanged—of course.

Ion. Then, why do not the Government hang those armies who go to kill other nations on purpose to take away their land?

W. Why, you forget. The Government send these soldiers—so the people of the government would have to punish themselves.

L. I think that nations kill each other, because they are *Heathens*. Only such nations as the Romans, who have not learned about God, would do such things.

W. But the English are not Heathens. They are *Christians*, and have murdered natives in America, Africa, Australia, and India, on purpose to get their lands.

P. That is true, Willie; but you must not say they *murdered* them. People call this "murder"—where one *man* goes up to another, and kills him; but when one *nation of men* march to another to kill them, that is called "War."

L. And the men are not called "murderers,"—they are called "warriors."

Ion. How curious, that the men should be called by a different name, because they all happen to be together—by the side of each other—when they are killing! Suppose a man was sixty yards away from the others, and was to kill one of his enemies, would he be a warrior or a murderer?

W. That would depend upon which name he liked best. You may *call* the action what you please; but I think that *the thing which is done*—I mean the killing—is just the *same*. There are not two killings—and there is no difference in the thing itself because it is done by several people.

Ion. So I think! To kill a man means "to make him die;" and unless there is any other killing, it is the same, whether it is done by a man or a nation.

P. Well, Ion, that is quite true. It is just what any *boy's* common sense will teach him. Christian people are now beginning to believe that it is wrong to make wars, or to call them "glory."

L. Are they only *beginning to believe*, papa? How strange!

P. But there are some who say that, as there are always wicked people in the world who will rob and steal, if you let them, we ought to have soldiers to defend us.

W. But, papa, could not you teach these people better? Couldn't you prevent them from fighting or stealing, by being kind to them?

P. There are many people now,

Willie, who think that we could. You know there has been only one Teacher in the world, whose words we can be sure are quite true.

L. Yes, that is Jesus Christ.

P. Jesus Christ, then, wrote a law to show us how to live without fighting. It is written,—"*Whatsoever ye would that men should do unto you, do ye even so unto them.*" But that is a very hard law to keep. There is no doubt at all, that men would leave off fighting, if they *all* knew the law, and had hearts good enough to keep it.

Ion. Then, of course, we ought to teach that law to one another as fast as we can.

L. And so ought all English people, because it is Christ's law, and the English are Christians.

P. This is one of Jesus Christ's *great* laws, and no one can teach it until he has *learned* it. *God* will teach all of you, if you ask him.

Ion. Then, I am sure, I will ask him. I believe it is wicked to fight, unless you are obliged; perhaps it is wicked then. At all events, I think there ought not to be any soldiers *made on purpose.* I will never be a soldier!

W. I do not think that Cæsar was so wicked. He had not learned that law—because he lived before the time of Jesus Christ. Did he *gain* anything by fighting!

P. Cæsar did not gain much else besides "glory:" for, after he was dead, the Britons rebelled once more. The Romans did not try to conquer them again, until about 100 years afterwards. The Emperor CLAUDIUS CÆSAR then sent a great general with an army. He conquered some of the British tribes, and made them pay tribute-money, and after much fighting, and killing, he took their leader, CARACTACUS, prisoner, and sent him to the Emperor Claudius, at Rome. When Caractacus arrived there, he was placed, with some other chiefs, from different parts of the world, who were going to be made slaves. Iron chains were then fastened on his body; an iron collar was placed round his neck, and he was led through the wide streets of the city, to be shown to the people.

Ion. How did Caractacus feel when they stared at him?

P. He did not seem to notice them, for his mind was full of astonishment at the wonderful city of Rome. Oh! thought he, what grand marble temples! What immense houses! Here is a broad market-place! What tall aqueducts! What a wonderful city! Then, he thought of his own poor home, and his poor wife and children,—and he wondered more to himself why the Romans should want to take *his* little house away from him, and to make his countrymen miserable, when they seemed so happy themselves. Then he thought again, "I'll ask them why they do so."

So, when he came and stood in the presence of the great Emperor, his heart was full of grief—and, without feeling any fear or shame, he looked in his face and said to him, "Oh! Emperor Claudius, how is it, that you, who have such a magnificence at home, can envy me my poor little cottage in Britain?"

W. Yes, why couldn't they let him alone, poor fellow! Did the Emperor punish him for being impudent?

No: when he saw that Caractacus was in earnest, he felt that his reproach was not impudence, but *truth.* I have told you before that everybody must give way to truth, and so did the Emperor. He ordered the chains and the iron collar to be taken off from Caractacus; then, he gave him some money, and sent him back to his own dear home.

Ion. Please, mamma, will you let us have an easier Object Lesson to-day? I have been trying very hard to remember the old ones; I have written down the qualities of the Bread and the Butter on a long piece of paper, and my head is so full of hard words—*opaque*, *absorbent*, *edible*, *nutritious*, that I am afraid of forgetting what they mean.

M. Well, we will have a very easy lesson. Here is some sugar in a basin for you.

SUGAR.

Ada. It is sweet.

W. And it is brown.

Ion. It is solid.

W. How can that be? See me put my finger in it.

Ion. Well,—but see again; here is one very little grain.

W. Yes,—it is *very* little. I hardly think that I *do* see it.

Ion. Yes, you do,—or you wouldn't say that it is little.—*That* is solid, is it not?

W. Yes.

Ion. Then so are all the other particles, of course;—and, if you say that *all its particles* are solid, you must say that the *Sugar* is solid.

W. Why?

Ion. Because all the particles of the sugar means the same as *all the sugar*;—and, if all the sugar is solid, then *sugar* is solid. Don't you understand that?

W. Oh yes. And yet you see that *is not* solid,—for, look, the particles make way for my finger.

M. The truth is, that you are making a mistake in calling each little grain a particle. We do not call a piece of anything "a particle," until it is so small that we can hardly see it. If you take one of the smallest pieces of the sugar, and put it in a magnifying glass, you will find that it has hundreds of particles. Such a little piece is called a *grain*.

So you must not say of sugar that it is *solid*, or *liquid*; but that it is "*granulous*."

W. That will make three qualities. Sugar is sweet, brown, and granulous. I know something else that is granulous. Sand is, and so is salt.—and sago.

Ion. But there is a difference between sand and sugar. If you put sugar in the water, it will melt, and sand will not.

M. It is not exactly right to say that it will *melt*. We say that a thing is melted if its particles are separated by *heat*—or, rather, caloric.

W. Yes, when you put lead in the fire it *melts*—that means, its particles leave go from each other, and flow about.

L. And that is what is done to the sugar;—when you put it in tea—even in *cold* tea,—the water gets in between the particles of every grain.

Ion. And then it makes them "leave go" from each other.

M. Say *separate*—"leave go" is such a babyish word.

Ion. Well, the tea makes the particles of the grain *separate* from each other. Then, they set out on an excursion between the particles of the water—flow about in it, I should say.

W. Or, *mix* with it.

Ion. Yes, and so they give the tea a sweet taste.

L. But, *really*, the *tea* has not a sweet taste—only the particles of sugar, flowing about in the tea, taste sweet.

Ion. I know that; because, once, when mamma gave me some tea, I did not know that I was to stir it, and the tea tasted bitter for a long time. The truth was, that the particles of the sugar, because they had not been "stirred up," were afraid to come to the top, and remained swimming about at the bottom.

W. But when you drank to the bottom of your cup—

Ion. Then the tea tasted *very* sweet.

L. What are we to say is done to the sugar, mamma, when its particles are separated by the water—if it is not *melted?*

M. We say that it is *dissolved.* This word "dissolved," is made from a Latin word, "solvere," to loosen.

W. Then, dissolved just means that the particles are let loose?

M. Yes, and substances which may be dissolved by water or any other liquid, are called "soluble."

W. Then we have found *four* qualities. The sugar is sweet, brown, granulous, and soluble. Please, mamma, will you let us hear its history now? Will you tell us where it comes from?

Ion. Mamma, I should like, for a change, if you would let the sugar give its own history, just as the Butterfly did. Grains of sugar can talk, I daresay, as much as Butterflies.

L. Yes; when mamma helps them.

M. Very well, I will put some sugar in this spoon. Now, listen to them:—

"We poor grains of sugar have been very much ill-used, and squeezed, and beaten, and boiled, and otherwise abused:—and, we know, from what you said just now, that, because our taste is good, you are going to drown us in your tea, and swallow us up for food."

L. Oh! poor things—they have just learned that they are *soluble.* But, mamma, they are talking in rhyme; is that the way they talk in the countries sugar comes from? Please let them talk properly.

M. That *is* the language of the East. People are rather musical in those parts;—but, I forgot, the sugar-grains came from the West. You shall hear what they say:—

"Please to bring the map, and look between North and South America; then you will see a number of islands called the WEST INDIES. In one of these islands, called JAMAICA, we were born. This island is a very hot place, and so are all the countries in the part which we call the "middle" of the world. But the plants there never care for the heat,—they grow all the better for it. You should see the mighty trees,—the bamboo canes, the banyan, and the palm trees! They look very fine and large, but nothing could have looked so fine as our *canes*, in which we were born.

"Oh! take us back to the West Indies, and then we will show you a sight! You should have lived in a house near our plantation, when we were growing. There were thousands of canes, and inside some of these canes we lived in the form of juice."

Papa. Yes, and you ought to know that there is sugar in nearly all plants. You may make sugar out of a cabbage-stalk.

W. And I have read in a book about the French people making sugar from beet-root.

P. It is the sugar in plants which nourishes you. There is sugar in *hay*, and grass.

L. Yes. We often say that the hay smells sweet; I suppose that is why the cows like it. But, what *is* a sugar-cane, papa?

P. It is a plant which grows up with a long stalk, and without any pith in it. It has knots on it, just like a reed or a straw.

Ion. I have a little cane up-stairs; I will run and fetch it. See! there is no pith in it, but it has a number of little holes.

P. And there are many other plants in the West Indies, which grow in a different way from that of the plants in this country. But we must not talk about them now. Let the sugar-grains go on with their speech:—

"The canes grew until they were much higher than a man—some of them twice as high. Then, they were of a bright-yellow colour, with a fine tuft of green leaves growing from the top joints, and a whitish flower springing from the centre. That was the time when we were worth seeing. You talk in this country about your golden grains;—but, go and see the golden canes! The people used to say, when the wind blew over the great field, and waved the canes to and fro, that they looked like a *sea of gold!* All the animals were pleased with our good looks, or rather with our *taste.* The rats crept in to have a nibble, the monkeys stole in to make a feast, and the planters came and shot them.

"The Negroes and slaves soon came then and cut us down. Then the canes were tied up in bundles, and carried to a mill, where they were placed between two rollers, so that they might be crushed and squeezed until their juice ran out. It was a horrid pressure, and we flowed out quickly into a trough under the mill. When the trough was full, some negroes came and emptied us into a large boiler;—and how were we shocked, when, soon after, we saw them take our beautiful canes in which we were born—for they were lying about on the floor all bruised, and flattened—and put them in the fire-place underneath, to be *burned!* Oh! we were very angry at this, but when they were made to burn until the heat of their flames came through the boiler, and through us, then we *boiled* with anger—and heat too.

"But we have no heart to tell of all the bad things that were done to us. They mixed lime with us, to take away what they called our *acid;* then a 'scum' rose to our surface, and that was taken from us because they said it was not good. We were boiled in this way several times, and were afterwards poured into wooden pans, where we became cool again, and formed ourselves into little crystals, or grains. Then they shut us up in a large dark cask called a hogshead, and some of the juice, which was still in a liquid state, drained away through a hole at the bottom. They called these drainings 'molasses;' and, I heard that it was used for making a spirit called 'rum.'

"After the hogshead had been drained, it was put on board ship, and we were brought to England. We heard that the sugar in the hogshead next to us underwent some new changes, and was called 'clayed sugar.'"

P. Ah! you may read about that in the *Penny Magazine.*

"And another hogshead was sent to some men called 'sugar refiners,' where its best part was made into *lump sugar*, and its coarse parts into *treacle.*"

Now let us make a lesson about it.

Lesson 4. SUGAR. (1.) *Sugar is a brown, granulous, sweet, and soluble substance.*

(2.) *It is the juice of a jointed cane which grows in the* WEST INDIES, *and other hot countries. When the canes are ripe, they are about twice the height of a man, and have a beautiful tuft of leaves and flowers at the top.*

(3.) *They are then cut down, tied in a bundle, and taken to a mill, where their juice is squeezed out. This juice is boiled several times; its acid is destroyed with lime; and it is then poured into a wooden trough, where it cools, and forms grains called* SUGAR.

(4.) *The sugar is packed in hogsheads, and sent to England, and its drippings or molasses are made into* RUM. *Sugar is also made into* CLAYED SUGAR, *and* LOAF SUGAR, *and* TREACLE.

THE TRAVELLER THROUGH ENGLAND.—BERWICK.

Papa. Here, Lucy, is another letter from Mr. Young—you may read it:—

L. Dear children,—

You would like my old horse "Peg" very much if you knew her. She is *very* steady and well behaved, and seems quite pleased at the idea of trotting through England with her master on her back. As soon as I had told her that I wanted my dinner, she turned her face to the east, and set off briskly along the banks of the Tweed. We did not stop until she had trotted six miles, and came in sight of the sea.* Then we saw before us an old-fashioned-looking town; it was surrounded by the remains of a very thick stone wall, and there was a strong "fort," with little holes in it, from which I could see the cannons peeping out. There was the ruin of a grey old castle, which seemed to have been battered by the cannon-balls, and a fine bridge, with fifteen arches, built over the Tweed.

I think that old Peg must have visited this town before, for she took me to an inn, where I found that there was a very good stable for her, and a nice bed for myself.

"Well, Landlord," I said, "what is the name of this town?"

"*L.* BERWICK, sir."

"It is a curious old place. Is it an English town, or a Scotch town?"

"*L.* Neither, sir; it is an *independent* town."

"But, what do you mean by that?"

"*L.* I'll tell ye, sir, while they get the salmon ready for your dinner. Did you notice any strong-looking places as you came into the town?"

"Yes."

"*L.* Ah! sir, if those old grey stones could speak, they would tell you many a hot tale about the 'Border wars.' You see, sir, before the time of King James the First, England and Scotland were two separate kingdoms; and the English and Scotch were often fighting with one another, instead of being friends, as they are now. The edge of each country was called 'the border,' and the people living here were called 'borderers.'

"This part must have been a wretched place; for there was continued fighting and stealing going on. No farmer would have dared to leave any sheep or cows in the fields during the night. Sometimes, during the dark nights, there would be, perhaps, two or three hundred people employed, watching on the hills. And, if any one of those men on the 'night-watch' sounded an alarm by blowing a horn, every man in his bed, who might hear even the echo, was obliged, under pain of death, to rise up, take his torch, his spear, and bow, and follow the 'fray,' as the fight was called.

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* Every child who reads these Lessons should be provided with a MAP, on which he might *mark the line of journey*. This is indispensable for learning GEOGRAPHY, which is the object of the Lesson.

"But, when the *great battles* came;—when the king of Scotland would bring his large armies to fight the king of England,—then, the poor people in Berwick would suffer. For, at one time, Berwick belonged to the Scotch, and it would be attacked by the English;—at another time it belonged to England; then, the Scotch would attack us. KING EDWARD THE FIRST once butchered nearly all the people, and burned the buildings to ashes.

"You know the old castle?—Well, sir! in the time of KING HENRY THE FOURTH, which was about 100 years after the time of Edward, the EARL OF NORTHUMBERLAND rebelled, and shut himself up in the town.

"The king's army came to attack him, and brought a *cannon* with them:—and from the hill which you can see out of window, they fired off a great cannon-ball, weighing ninety-six pounds. This was *the first cannon-ball ever fired in England;*—and it so frightened the soldiers in the castle, that they surrendered directly.

"Now, sir, think what a shame it was for the poor people here to have their houses burned, and cannon-balls fired at them, for nothing at all!

"They didn't *ask* the Earl of Northumberland to rebel, and they did not ask him to come here—he came because he chose. In this way the Berwick folk were never happy or safe—for, as the city is exactly between the two countries, it was a most important place in war time, and the English and Scotch were always fighting for it. The townspeople did not want to be fought for, and lived on until the time of MARY QUEEN OF SCOTS. This Queen, and young EDWARD THE SIXTH, then made a treaty with each other, and agreed that Berwick should not be dependent on England, and not dependent on Scotland, but should be an *independent town.*"

W. "That means, I suppose, that the people would depend upon themselves, and not *belong* to anybody?"

"*L.* There's another castle, worth noticing, not far from here, sir. It is about six miles off, on the southern bank of the Tweed, and is called NORHAM CASTLE."

"Yes," I said, "I was there about an hour ago; what a crumbly old tower it has!"

"Well, sir," said he, "you remember that English King, Edward the First, whom I spoke of just now. In his time there were two great men in Scotland, who both wanted to be king—they were called ROBERT BRUCE, and JOHN BALIOL. Now, the Scots could not tell which man to choose, so they invited Edward the First to come and be umpire—that means, to choose for them;—and, when he came, he lived in Norham Castle."

"Perhaps," I said, "he did not like to go farther, for fear the Scots should kill him."

"Perhaps so, sir, for he was a very crafty fellow; he wanted really to be King of Scotland himself; and afterwards, he tried very hard to conquer the Scots.

Ah! I could tell you a great deal about King Edward, and Robert Bruce, and Sir William Wallace; but another time will do, sir, for here is your salmon coming."

"You have plenty of salmon here?" I said.

"Yes, sir, it is caught in our river. The river Tweed, and nearly all the northern rivers, are famous for this fish. If you will go in the town, on market-day, you will see that our principal trade is in salmon and corn. We sell great numbers of eggs too. Some of the salmon is 'exported,' and some is pickled, and sent to London."

Ion. Ah! I like pickled salmon.

"Do not the people here catch salmon by *spearing* them?" I said.

"Yes, sir, but not very often. They generally use a *net*, or a *rod*:—but, I know some men who will be going out to-morrow night to spear salmon, and you shall go if you like, sir, and see them caught."

Do you know, dear children, I saw some curious things that night?—but I have not time to tell you all now. It was a black, cloudy night—no moon—and we went in the boat, on the dark river, where we could not see each other's faces. After some time we stopped. The men threw their nets in the water, and held lighted torches on its surface. The fishes, when they saw the torch, could not understand what new moon, or sun, or star had come down to visit them, and were very curious to come and see it. They could not see us in the boat, because it was so dark, but we could see them in the water, because it was lighted up;—and, as they came round the torch to inquire what was the matter, the men from above struck them with their spears, and killed them. The poor fishes struggled very much, but they soon died. I did not think that, after all, it was such cruel work as fishing with a rod and line.

When I reached home I was so tired and sleepy that I went up-stairs to bed directly, and did not stop to make any notes. I will write them in the course of the week, and will send them to you in my next letter.

I am, dear children,
Your faithful friend,
HENRY YOUNG.

HURRAH! hurrah for England!
Her woods and valleys green;
Hurrah for good old England!
Hurrah for England's Queen!

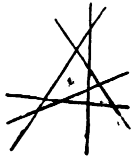
Good ships be on her waters,
Firm friends upon her shores,
Peace, peace within her borders,
And plenty in her stores!

Right joyously we're singing,
We're glad to make it known
That we love the land we live in,
And our Queen upon her throne

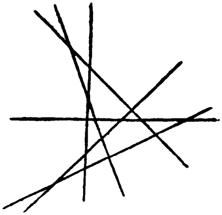
Then hurrah for merry England!
And may we still be seen
True to our own dear country,
And loyal to our Queen!

Lesson 4. ANGLES.

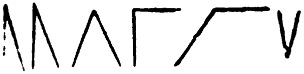
W. See, papa! I have formed 40 angles with five lines.



Ion. And here are six lines, forming 60 angles.



P. These are formed correctly. To-day we will talk about different sorts of angles. Look at these angles, and tell me if they are all alike?



W. No, they are of different sizes—what a large angle this end one is!

P. *Why* is the end one larger than the other?

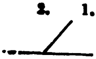
W. Because it has longer "legs," I suppose.

Ion. I don't think that is the reason, because I noticed that all their legs were of nearly the same length.

W. No, I see now; it is the *direction* of the lines which makes the angles larger, for if you make the two lines stretch out in a direction *very far* from each other, the opening becomes larger, and then, of course, the *angle* is larger.

Ion. Or if you make the two legs point in nearly the same direction, like those in the first angle, then the opening becomes *smaller*, and the point (no, the *vertex*) becomes sharper—so the sizes of angles depend on the *direction* of the lines.

P. Lend me your pencil, Willie; now I will draw on this piece of paper two angles, with two lines. I have marked them 1 and 2. Tell me, are they alike?



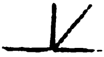
W. No; No. 1 is much smaller than No. 2; but, if you were to move the oblique line up a little, No. 1 would become larger, and No. 2 smaller.

L. Yes; No. 1 would be made *just as much* larger, as No. 2 would be smaller. The piece taken from No. 2 would be added to No. 1:—that is fair!

P. But, if I were to make the line lean in the *opposite* direction, then No. 2 would be too small. That would not be "fair," you know. When should I leave off moving the line, so that the angles might be of the same size?

L. When you have made the line *quite upright*—perpendicular, I mean.

P. Suppose I make an upright line,—then we shall see.



L. Ah! papa, now they are equal.

P. There is a proper name for the size of these angles. I will make the rule for you:—"*When one line standing on another makes the angles on each side of equal size, they are called,*

W. SQUARE ANGLES! for, see! they are both square.

P. No, Willie a "square" must have *four* angles. Such angles are called RIGHT ANGLES. What does the dotted line which I have made show you?

W. It shows how much No. 1 was too large before.

Ion. And, of course, it shows too how much No. 2 was too small. And what are we to call the two angles which are not of the same size? What is the name of the large one, with a blunt vertex?

P. I have a *Latin* name ready for it. The Latin word for blunt is "Obtusus," so we call it "an obtuse angle."

L. And has the small angle a Latin name too?

P. Yes;—as an angle smaller than a right angle has a *sharp* vertex, we call it——

W. I know the Latin for *sharp*—"Acutus."

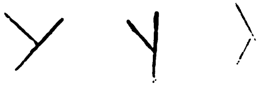
P. That is it. So we call it an *acute angle.*

Ion. Now I see a rule, which I can make:—*When you join a perpendicular line to the middle of a horizontal line*—

W. It need not be exactly in the middle, Ion.

Ion. Well, never mind. *When you join a perpendicular line to a horizontal line, the angles on each side of it are of equal size, and are called* RIGHT ANGLES;—*and, when you place an oblique line on an horizontal line, the angles on each side are of unequal size—the small one is called an* ACUTE ANGLE, *and the large one an* OBTUSE ANGLE.

P. But the two lines need not always be perpendicular and horizontal. You may make right, and acute, and obtuse angles, in all manner of directions; so:—



Now we will easily make the lesson:—

Lesson No. 4.—(9.) *Angles may differ in size. Their size depends on the direction of the lines.*

(10.) *When one line standing on another makes the angles on each side of it equal, they are called* RIGHT ANGLES.

(11.) *An angle smaller than a right angle is called an* ACUTE ANGLE.

(12.) *An angle larger than a right angle is called an* OBTUSE ANGLE.

Ion. I shall always remember them in this way:—

Square angles are called Right angles.
Sharp angles „ Acute angles.
Blunt angles „ Obtuse angles.

P. Did you ever take pains to notice any of these angles in nature?

W. I do not think we have noticed many in nature, but we have seen them in the streets. Last Wednesday, Ion and I were talking about the Lesson on Angles, as we came home from school. We counted up all the right angles we saw,—we called them *square* angles then. As we came out of the school-door we saw that the corners of the door-steps were right angles, so were the corners of the door,—of the panels—of the railings—the window—the bricks. There were right angles in the corners of the paving-stones—the corners of the houses—the balconies—the public-house sign—and the omnibuses. Every thing seemed to have a right angle in it. The little railing sticking out from the lamp-post made a right angle; we met a man with a box that was full of angles! another came with a *book*, another with bills; another brought an organ. There was a carpenter with right angles in his cap, and a girl with right angles in her apron. The old woman's stall had right angles in it, and so had the "hardbake" she sold. The right angles seemed to be coming up to our faces—everywhere!

P. And you might have had one in your *mouth*, if you had had some hardbake!

L. Ah!—I have never tasted a right angle.

Ion. Excepting, Lucy, the corner of your bread and butter, which you are biting off now.

PLEASANT PAGES

FOR THE

5th Week. MONDAY. Moral Lesson.

TRUTH.—MR. GAINALL'S BARGAIN.

P. We learned last Monday about speaking *more* than the truth,—"Exaggeration" we called it.

W. Ah! and there are some people just like the water-cress man. Now, I know why mamma went to that quiet, old-fashioned-looking shop, when she bought Lucy's merino dress.

There is a large shop in the High Street, with plate-glass windows, which nearly reach down to the pavement, and when we passed it there were bills up about FAILURE! 4000 PIECES OF MERINO!—SELLING OFF! And there were large tickets with six notes of admiration on them, saying, "*Very Cheap! The Cheapest House!!*" just as the old man said his were the best water-cresses.

P. And your mamma did not buy any merino there, I suppose?

W. Oh no. She said that those bills were great "exaggerations"—more than the truth; and that she would not trust the people who kept that shop,—she bought the stuff for my pinafores there, and it soon wore out. When we went to the quiet-looking shop, Lucy and I thought it must be a *dear* place, for the draper only brought us two things which were cheap, and he did not say that they were very cheap. He called the other pieces *good*, and mamma seemed to believe all that he said.

Lucy. And, you remember, Willie, when Mamma engaged a new servant last Wednesday? Do you know why she did not have the one who came on Tuesday night, with such a fine bonnet?

W. I think I can guess. Because she talked so quickly, and did not give mamma time to ask her any questions. She said so much about what she could do, and how well she could make pastry. Mamma said she spoke so fast, that she had not time to think whether she was speaking more than the truth, or not.

Ion. And I know another thing—Mamma did not like her, because she wore green kid gloves. Those things were exaggerations. Her wearing them was as much as to say, "I am a lady," when she was not. What is the use of a servant wanting to look like a lady?—it is just as bad as a lady trying to look like a servant.

W. And I wonder why people who are poor *want* to look like rich people—it is very foolish, I am sure, because—

P. Come, you are going on a little too fast, Master Willie. Listen to another tale:—

Mr. PETER GAINALL was a man who thought that all money was gain. If you had asked him, "What are you thinking about?" he would have said, "Money;" and if you had asked him, "What is the best thing in the world?" he would have said, "Money."

He ordered a new coat from the tailor, and said to him, that the cloth of the last coat was not good, when it was,—and he made the tailor charge 4*s.* less. So he took care of the four shillings, and put them in a drawer, and said he had gained that money.

W. No. He had only *bought* the

money. He had given the truth for it;—that was a dear bargain.

P. Once, he hired a new groom to take care of his horse. He told him that the wages he wanted were too much, and that he knew a groom who would come for £16 a year.

W. Well, there was no harm in saying that, if it was true.

P. It was true, Willie, but then, it was not *all* the truth. The groom he spoke of was a bad groom, who did not understand horses—and he did not tell him that.

W. Ah! I see now, he told him *less* than the truth; and that is just as bad as saying more than the truth.

Ion. He ought to have been at the public meeting last week. He should have heard that great speaker, with the loud voice, who cried out, "*We will have the truth, the whole truth.*"

W. And he said, "We will have *nothing but* the truth." The water-cress man would have agreed to that.

P. But I am going to tell you about Mr. Ganeall's house. When your Aunt Mary and I were children, your grandfather lived next door to him. His father built that house. There were fourteen windows in front, and a pretty doorway with steps to it. There was a long path leading to the doorway, with a row of trees on each side; and there was a broad green lawn, with a pond and fountain in the middle of it. At the back of the house, there was a fine flower-garden, another green lawn, a shrubbery, an orchard, and a kitchen-garden.

Oh! it was a beautiful place, and we liked it because it was always so quiet! Mr. Ganeall never asked us to come and see him, for he did not like children, so we used to sit, on summer afternoons, on half-holidays, and look over the palings.

We would often sit still and look—for an hour. The yellow light of the sun would steal in quietly amongst the dark leaves of the shrubbery, and slily brighten them up. Then it would come out through the trees, and spread itself over the lawn. Then, lanky shadows of branches, and thick shadows of leaves, would show themselves on the grass, and wave backwards and forwards, as the wind moved the trees. Ah! but the wind only moved them gently! It was afraid to be rude, and make a noise there! so it only made a breezy sound, and rustled the leaves to make them sing "Hush!" It knew that it had no right to be out on a sunny afternoon, especially in so very quiet a place.

For there, every one was quiet. The white butterflies flew over the flower-beds quietly. The sparrows just shook themselves in the dust, and hopped about without chirping a sound. All we heard, was the buzz of some sleepy old bee, or some idle grasshopper's "crick." Even the little brown spaniel, who lived in the house, and had to go into the shrubbery and back again for something, left the path, and trod with his soft feet on the velvet grass; and, instead of barking at us and wagging his tail, he looked up, and passed on with his nose to the ground. So everything seemed to be dozing, and sleepy, except when a great saucy crow, who was flying high over our heads, squalled out, and made a loud "Kar-r-r-r!" as much as to say to us, "How do you like that?"

And, that was why we liked the place—because it always seemed so still. It seemed as if nobody lived there, for Mr. Ganeall was in the city all day.

W. I should think that the *servants* enjoyed themselves the most.

P. We often thought that it was too large a house for a man who had not any children, or any wife. He only seemed to like it because it was quiet.

But, one morning before breakfast, there came a strange man with a brass thing, something like a telescope, which stood on three legs. He put it down just between our house and Mr. Ganeall's, and peeped through it, whilst another man stood a long way off, and held up a tall, straight staff, for him to look at. The staff had numbers printed on it, which he counted. So I asked the man what they were both doing, and he said they were making "trial levels," and that in about four or five years' time there would be a branch rail-road, running just between Mr. Ganeall's park and our garden.

You should have seen how angry Mr. Ganeall was when he heard about it. He said that he didn't like noises, and he would not have a noisy railway close to his house, when he wanted to be quiet; and at last, he said that he would let the house to some one else, and go away. About a week afterwards, when we were all quite sure that the railroad would be made, we saw an advertisement in the *Times*—

TO LET, ON LEASE OF 21 YEARS, an eligible FAMILY MANSION, situate in Lower Clapton, containing 24 Rooms, with Coach-house, Stables, Out-houses, Green-houses, and good supply of spring water. The House has nine acres of meadow-land attached, with Orchard, Shrubbery, Kitchen-garden, &c., and commands an extensive view of the River Lea. For terms, and cards to view, apply to X. Y. Z., opposite the Orphan Asylum, Clapton.

W. Ah! he never put a word in the advertisement about the railway. He was keeping back a part of the truth again.

Lucy. What is a "lease," papa?

P. The lease was an *agreement* that the gentleman who took the house should live in it for 21 years—he had to pay 180 guineas a year for rent.

L. But he would not have agreed to pay so much, if he had known that a railway was coming to disturb him?

P. No. And Mr. Ganeall thought he had made another good bargain. The *whole* truth, however, came out soon afterwards; and then, of course, the gentleman wanted to pay less rent. But Mr. Ganeall said, "No, he would not take less."

L. What did the gentleman do?

P. He began what is called a "lawsuit,"—that means, they both went to a Judge, that he might say who was right.

L. What did the Judge say?

P. The Judge said, "That if Mr. Ganeall did not know *before the lease was made*, that the railroad was to be there, it was not his fault, and he ought not to have less rent; but, that if he *did* know, he ought to have said so, and ought to say so now.

L. I suppose he confessed then that he *did* know?

P. No. He said he was not obliged to *say anything*. But at last, one of the servants who had lived with him came forward, and told the Judge about the man who had made the "trial-levels," and spoke the *whole* truth.

W. And what was done then?

P. Then Mr. Ganeall had to receive less rent; and he found that in trying to gain too much for his house he had not gained anything, but had lost much money. He had to pay his own lawyer's bill, which was £200 6*s.* 8*d.*; and the bill of the gentleman's lawyer, which was £319 7*s.* 3*d.*

L. Let me make a lesson about him, papa!—*It is wrong to speak less than the truth, for that is*—what is it?

P. PREVARICATION.

W. Mr. Ganeall paid very dear for that lesson. He gave up *the Truth*, £319 7*s.* 3*d.* and £200 6*s.* 8*d.* That was not a good "bargain" at all.

THE FOUR SUB-KINGDOMS.

W. Mamma, you did not, last Tuesday, tell us the names of any branched animals.

Ion. But, Willie, I have been looking in papa's Natural History books, and have found out several. There is one which we saw when we were in a boat near Brighton. The boatman called it a "Jelly fish," and in the book it is called a "SEA NETTLE."

And there is another which has a round shell covered all over with prickles, like a Hedgehog. It is called the SEA URCHIN, or SEA EGG. There is another very beautiful one, called the SEA ANEMONE. There are also others called CORALS, which form rocks.

W. There are seven kinds. I will count them :—The Hydra; Star-fish; Jelly-fish; Sea-egg; Sea-anemone; and Coral. But, mamma, you gave us a Latin name for the backboned division of animals,—are there not Latin names for the other divisions?

M. Yes. These "branched animals"— their limbs may not only be compared to the branches growing out from the trunk of a tree, but you may compare them to the rays of light reflected from the sun. The Latin word for *ray* is "radius," so we call these animals "RADIATED ANIMALS."

And the *soft-bodied* animals. The Latin word for *soft* is "mollis," so we call them MOLLUSCOUS ANIMALS.

W. And what are we to call the *jointed animals*, mamma?

M. From the Latin word *articulus*, which means a "little joint," we give them the name, ARTICULATED ANIMALS.

Ion. And why, mamma, are the *back-boned animals* called "vertebrated?"

M. From another Latin word, "Vertebra;" that is the name given to the little bones of which the spine or backbone is composed.

I have been thinking that, to-day, instead of learning any new lessons, it would be well for you to let me hear how much you know of the old ones. Now, I have said, that all animals may be arranged into four great divisions. How many particulars did I give that you might know the *Backboned Animals?*

Ion. Three, mamma.

M. And how many parts did the Butterfly mention by which you might know the *Jointed Animals?*

Ion. Three, mamma. There were four particulars by which we distinguished the *Soft-bodied Animals;* and five points by which we knew the *Branched Animals*;

M. To-day, then, we will recapitulate these particulars. Let us all repeat the distinctions of the four sub-kingdoms.

W. What did you call them, mamma?

M. "Sub-kingdoms;" we must not call them divisions now.

W. That is a curious name. May we not call them *classes* instead, mamma?

Ion. Or, "Regiments?" Or, we might call them the four "tribes."

M. No, I will tell you. When we speak of *all* the animals, we do not say the animal "class," for they are in too great a number to form only a *class.*

W. No, you say that they form the "Animal *Kingdom.*"

M. And if the master in your school, Willie, were to take one of the large "divisions" of boys, and arrange it into smaller divisions, the little divisions would be called—

W. *Sub*-divisions. I remember that, because in our etymology class we learned that the Latin word "*Sub*" means *under*, they would be "underdivisions."

M. It is exactly so with the four divisions of the animals. They are not large enough to be called "Kingdoms," so we call them—

W. "Sub-kingdoms."

M. Now let us repeat:—

One great division of animals are alike because they have—

1. An internal skeleton.
2. Red blood.
3. Four limbs:

Such as the DOG, Cow, Horse, Sheep, Lion, Pig, Mouse, Elephant, Mole, Eagle, Herring, Blackbird, Sparrow, Salmon, Toad, Frog, Boy, Lizard, Rabbit, Snake, Bat, Whale, Hedgehog, Eel, &c. &c. &c. They are called BACKBONED, OR VERTEBRATED ANIMALS.

M. Another great division are alike because they all have—

1. An external skeleton.
2. White blood.
3. Not less than six limbs:

Such as the BUTTERFLY, Bee, Grasshopper, Crab, Earwig, Lobster, Ant, Gnat, Silkworm, Flea, Leech, Scorpion, Worm, Fly, &c., &c. They are called JOINTED, OR ARTICULATED ANIMALS.

The third great division are known by their having—

1. No skeleton, but a thick skin, called "a mantle."
2. Whitish blood.
3. No real limbs.
4. Therefore not much power of motion:

Such as the SNAIL, Oyster, Periwinkle, Cowrie, Mussel, Slug, &c., &c., &c , &c. They are called SOFT-BODIED, OR MOLLUSCOUS ANIMALS.

And the fourth great division are known because—

1. Their parts grow from one centre, like the branches from the trunk of a tree.
2. They seem to have no regular shape or framework.
3. They may be multiplied almost in the same way as we multiply trees and plants.
4. Many of them have hardly any power of feeling, seeing, or hearing; and are so much like plants, that they seem to join the Animal and Vegetable kingdoms together:

Such as the HYDRA, Star-fish, Sea Nettle, Sea Anemone, Sea Urchin, &c., &c., &c. They are called BRANCHED, OR RADIATED ANIMALS.

Now we will repeat *together*—once more;—"So that the whole Animal Kingdom may be divided into four sub-kingdoms, viz.:—

1. THE BACKBONED, OR VERTEBRATED SUB-KINGDOM.
2. THE JOINTED, OR ARTICULATED SUB-KINGDOM.
3. THE SOFT-BODIED, OR MOLLUSCOUS SUB-KINGDOM; and,
4. THE BRANCHED, OR RADIATED SUB-KINGDOM.

L. It is a very good thing, mamma, that men have found out the plan on which all the animals are arranged. Now, when I meet an old dog in the street, I know *something* about him, I know what place he belongs to.

W. Or when you meet a Horse, or a Cow, or a Sheep; but, how many different animals are made on the same plan! What a difference there is between an Elephant and a Mouse, or between a Snake and a Canary-bird, or between a Flat-fish and a Lion! I wonder how they would get on if they had to walk in a row. They must be arranged again, I suppose, for they do not make a very orderly class now.

M. Yes, you will find that, after a little time, we shall take one of the sub-kingdoms, and arrange the animals into smaller divisions.

Ion. Just as you would take an Army of Soldiers and arrange it into Regiments; and, then take a regiment, and divide it into companies.

W. Or, just as you would take a sovereign and change it into shillings; and then take a shilling, and change it into pence.

M. No, Willie, that is not a good comparison; because, you have to *change* the shillings, before you arrange them. We shall not have to change the nature of our animals, nor to change their *names*;—we shall only arrange them as we find them.

THE ROMANS.

CONQUEST OF BRITAIN.

W. Now you see, papa, that when Caractacus *talked* to Cæsar, Cæsar did not like to kill him.

P. No.

W. Well, then, that is just what I have thought—if men would *talk* to one another, they would not fight so much. If Cæsar had heard that speech before he sent his army here, perhaps he would not have made a war, nor killed *any* of the Britons.

P. He ought not to have done so, Willie; but let us go on with the History. When Claudius died, there was another Emperor called Nero. He sent more soldiers to try and conquer the Britons. In one part of the island there lived a Queen called Boadicea, and her two daughters. When this poor Queen's husband died, the Romans treated her and her daughters very cruelly. The Britons were so enraged at this cowardly behaviour, that they rose up, TWO HUNDRED THOUSAND OF THEM, to fight for her. They destroyed the villages and towns, and burned the Roman city called London.

Ion. And did they drive away the Romans?

P. No: the Britons tried to, but they were conquered again. In a great battle, the Romans slew *eighty thousand* of them, and the Queen Boadicea was so broken-hearted that she poisoned herself. Year after year, there was continued fighting, until the time of the Emperor VESPASIAN, when the whole island was subdued. Britain was then governed by the Romans, and it became a province of Rome, just as India is now a province of Britain.

L. Oh! I am so sorry that they conquered; because they had no right to the Island.

P. I dare say the Britons were sorry too—but, Lucy, God so orders things that, whenever there is any evil, there is almost always some good with it.

W. But was there any good for the Britons when the Romans conquered them?

P. Yes. The Romans brought evil and good too. They had more knowledge than the Britons, and, when they came here, they taught the people many things. They showed them how to build large handsome houses, and to plant beautiful gardens. Many of the Roman soldiers were engineers and surveyors. They made hard broad roads through the country, paved them with stone, and placed milestones upon them. These were such famous roads, that some of them have lasted until now — nearly eighteen hundred years!

The Romans also built many large cities, with walls round them, such as York, Bath, and Chester, and in them they made temples, baths, and market-places. They also made schools, where their own children and the little Britons were taught to read and write. They made good laws, better than those of the Druids, so that in about a hundred years there was a great change in the people's manners. Many of the Britons left off painting their bodies, and began to wash themselves and comb their hair, and dress like the Romans. Some who had lived in an agricultural state, instead of dwelling in the fields, had large houses within the walls of the cities. At the markets, they learned to use *money*, and to get their living by buying and selling.

W. What state would you say they lived in then?

P. We might say, perhaps, that they were now in a *civilised* state.

They were not called Husbandmen, but MERCHANTS and CITIZENS.

The Romans also taught the people to build castles and stone walls. The Emperor SEVERUS came to Britain; and when he found that the natives of Scotland were very troublesome, he built a great stone wall, with towers on it, to keep them out. If you take your map, and draw a line from Northumberland, where the wall began, to Cumberland, where it ended, you will see that it extended right across the north of England. The Romans lived here, and governed the Britons for nearly 400 years, until the year 430.

Ion. What happened then?

P. In the reign of an Emperor called VALENTINIAN THE YOUNGER, the people in Rome, who for a long time had been growing idle and careless, were unable to defend their own city. They were then obliged to send for all the soldiers in Britain to come and help them. So the Romans bid good-bye to the Britons, and left them alone by themselves.

W. Ah! good-bye, old Romans, the Britons are free again!

P. But before we leave them altogether, I want you to recollect the Emperors whom you have heard of, and all the British Chiefs; so we will count up their names, and make another lesson:—

Lessons 4 and 5.

8. *About* 50 *years* B.C. JULIUS CÆSAR *conquered the Chief* CASSIBELAUNUS, *and made the Britons pay tribute.*

9. *About* 50 *years* A.D. *the soldiers of* CLAUDIUS CÆSAR *conquered* CARACTACUS.

10. *The soldiers of* NERO CÆSAR *conquered* QUEEN BOADICEA.

11. *The armies of* VESPASIAN *subdued all the Britons.*

12. *In the reign of* VALENTINIAN THE YOUNGER *the Roman soldiers, being wanted at home, departed from the Island, and left the Britons to themselves,* A.D. 430.

P. We will call this period of our history "The ROMAN Period," from 50 B.C. to A.D. 430. How long was the Roman Period, Lucy?

L. From 50 B.C. to 430 A.D., nearly 500 years.

'Tis the Lord who gave our country;
'Tis our God who shields our home;
He hath fixed our habitation,
And from Him our blessings come.

We are happy English children,
And our hearts should glow with love
To the Queen whom God sets o'er us,
And to Him who reigns above.

Thanks and praise to God Almighty,
To the Lord of earth and heaven:
Heart and tongue should sing his praises
For the blessings he hath given.

MILK.

W. I do not think we need have a lesson on milk, mamma. We know everything about it.

W. I think you have made a mistake,—let me hear all that you can tell me.

Ion. It is *white*, and *opaque*.

Lucy. It flows about—so it is *fluid.* And, it will *form a drop*, so it is *liquid.*

Ion. And, there is a quality in milk which makes it good to use with our tea. It takes away the rough, hard taste which tea has—it gives it a *softer* taste.

W. Just as oil softens the vinegar, when papa mixes them together with his salad.

M. Because the milk softens your tea or coffee, you may call it *emollient.* This name is made from the Latin word, "mollis," which means *soft.*

L. I will try and remember it—"Milk is EMOLLIENT." So is pomatum—it softens my hair when I use it.

W. And, if you drink plenty of milk it will make you *fat*—nourish you. What do you call anything that nourishes you, mamma?

M. First, tell me some other things which will nourish you?

L. Bread and butter, beef and mutton.

M. All such things, because they nourish you, are called *nutritious.*

Ada. I think that plum-pudding is "nutritious."

Ion. Ah, Ada! that is because you think it is *nice*, I suppose;—but, if you eat much plum-pudding, it will do more than nourish you—it will *make you ill.*

W. So do *tarts*—they nourish you a little, and then make you *ill.* Mamma, what do you call nutritious things which will make you ill?

M. We say they are "unwholesome."

W. Oh yes. I have often heard that word—but you may drink plenty of milk, and it will not hurt you. So milk must be *wholesome.*

M. Tell me some other substances which are nutritious, and *not wholesome.*

L. Cake, custards, and sugar, and many things which we eat after dinner, sometimes.

M. Now mention something which is *wholesome*, but *not* nutritious.

W. I know of something; *Water* is very wholesome, but I do not think that it will nourish you.

Ion. And so is *fresh air*,—that is *very* wholesome.

L. I have thought of some more which are not nutritious:—Beer, gin, wine, tea, and coffee; we could not live on them.

M. Certainly they are not nutritious, nor wholesome either:—they are *stimulating.* You shall understand the word "stimulating," some day.

M. Now tell me of some liquids which are both *wholesome and nutritious.*

W. Broth is,—and soup.

Ion. And so is gruel.

L. And pea-soup, arrowroot, barley-water;—and toast-and-water is *rather* nutritious, I suppose?

M. Not very—but I can see a difference between these liquids, and the liquid *milk.* How is milk made?

W. That is a very hard question; because, if we were to mix a hundred things together, we could not *make* milk. We get it from a cow,—and I don't think that she knows much about it.

M. And what sort of a cow do you get gruel, and barley-water from?

Ion. Why, from no cows at all;—you get them from the kitchen; and, I suppose that the cook makes them there.

W. I see the difference you mean,

mamma. Such things have to be *made* first, and the milk is just as we find it in *nature*.

L. And things which are used just as we find them in nature, are called *natural*.

W. Beef is natural, but bread is not, because you have to *alter* it—make it, I mean. An apple is natural, so are all fruits;—but if you were to mix a little water with the milk, then it would not be a *natural* substance any longer, I suppose?

M. No, it would be milk-and-water then.

L. And *water* is not natural when you put burnt toast in it—it becomes "toast-and-water."

M. Then we will remember about milk,—that it is a *natural* liquid, which is nutritious, and wholesome, Let us stop to think of this. What very different qualities you sometimes find out in objects! Now, you may be almost sure that there is some reason *why* these things have such qualities. There are many *solid* things which are nutritious and wholesome,—why should God have made a *liquid* with these qualities?

W. I do not know. I could live without milk. I like *solid* things.

M. Yes. But, about nine years ago, if I had given you a nice solid piece of meat, and a crust of bread-and-cheese after it—would you have said that you liked solid things?

W. No, for I hadn't any teeth. I suppose I lived on liquids then—until I was promoted to "tops and bottoms;" now I understand why milk has these qualities. Here are the reasons—

If it had not been *liquid*, I could not have swallowed it.

If it had not been *nutritious*, it would not have kept me alive. And if it had been *unwholesome*, I should have been ill every day. How I should have cried!

Ion. And, I see another quality now, which God has put in it, to make it fit for babies. It is *nice*. Ah! if it had not been nice, Willie! what should we have done?

M. And, do you never think how wonderfully the great God makes all things? You see, he can make all kinds of qualities, very different from each other; and, in all the good things he makes, he knows which are the best qualities to make them useful.

Ion. How much God must have *thought*, mamma, when he made the world! and what curious qualities he has made in some of the trees and plants! What do you *call* the quality in Senna-leaves, which makes them good for medicine? and the quality in linseed which makes it good for a cold?

M. It would be rather difficult to make proper names for all the different qualities we find. Besides, it would take up too much time now. Suppose you count up the qualities you have observed in the milk.

W. I will, mamma. MILK is white, opaque, fluid, liquid, emollient, nutritious, and wholesome. And now for its "history;" that will be very short—"Milk comes from the cow"—that is all, I suppose?

M. No, that is not all. What does the cow have milk for?

L. To feed us, and its young calf.

M. But other animals have milk?

Ion. Yes. The goat,—the ass. Sheep have, for I saw the young lambs helping themselves.

Ada. And puss gives her kittens some milk.

M. And many more animals have milk,—Lions, Elephants, Wolves, Foxes, Whales,—it is given to them so that they may feed their young. Some animals, however, have not any.

W. No. Birds have not—the

little ones could not suck with their beaks! Our hens chop up the grains of barley for the chickens.

Lucy. And Fishes have not any milk, nor Insects, I suppose?

M. No. The animals which have milk, are those which we call "Mammals." Some have only enough for their own young ones—but God has been good enough to make animals which have *more* than they want for themselves.

W. And, so *we* have it. We get it from the cow—and in WALES some people get milk from the goat.

M. But there are some countries where cows cannot live very well—such as LAPLAND AND NORWAY—and the cold parts of North America. Do you think that God would let the people there be without milk?

Ion. No, I know better than that; because I have read that He has made an animal fit to live in such countries. It is called the *Rein Deer.* It supplies milk to the Laplanders; and meat, and clothing.

M. And, cows do not thrive very well in *hot* countries — such as ARABIA and others.

L. And there, God has given them the *camel*—I have read that the Arabs get milk from it, and that they eat its flesh.

M. In TARTARY, a country in Asia, the Tartars drink the milk of the mares. They eat horse-flesh too: —you may see it in their butchers' shops. In a part of SOUTH AMERICA some people drink the milk of the Llama—and in another country, which I forget now, they procure milk from the sheep.

Now let us make up a lesson—

Lesson 5. MILK.

(1.) *Milk is a white, opaque, emollient, nutritious, wholesome, and natural liquid.*

(2.) *This liquid is found in a class of animals called* MAMMALS. *It is given to them to feed their young.*

(3.) *Some animals have more than they want for themselves, and therefore they supply mankind. In* ENGLAND *it is procured from the* COW, *and the* ASS. *In* WALES *from the* GOAT. *In* LAPLAND *and cold countries, from the* REIN DEER. *In* ARABIA *and hot countries, from the* CAMEL. *In* SOUTH AMERICA, *from the* LLAMA; *and in some countries, from the* SHEEP.

WHEN all thy mercies, O my God,
My rising soul surveys,
Transported with the view, I 'm lost
In wonder, love, and praise.

Unnumber'd blessings on my head
Thy tender care bestow'd,
Before my infant heart conceived
From whom those blessings flow'd.

Ten thousand thousand precious gifts
My daily thanks employ;
Nor is the least a grateful heart,
To taste those gifts with joy.

Through every period of my life
Thy goodness I 'll pursue;
And, after death, in distant worlds,
The glorious theme renew.

ADDISON.

THE CRUST OF THE EARTH.

LIME.

Ion. You told us, papa, that we were to learn of another fluid, besides the fluid AIR and the fluid CALORIC. We cannot find out where it is.

P. It is nearly *everywhere.*

You would not find much of it in the coal-cellar, but there is plenty in the garden. There is plenty on this side of the street, but not so much on the shady side.

W. How does it feel, papa?

P. It never feels at all—it has not any life.

W. No. I know the fluid does not feel; but, how do we feel it?

P. It does not give us any particular *feeling*. We *perceive* it with our eyes, just as we perceive sound with—

W. Our ears.

P. I think we may say that we perceive it a little. You know that when there is a very great sound, it is too much for your ears to perceive properly

W. Yes. We say that it *stuns* us.

P. And so—when there is too much of this fluid for your eyes to perceive it properly, it gives you pain; and you shut your eyes and wink them, and put your hands before them. I once saw an owl which some boys had brought out from a dark corner of a castle. He tried to keep his eyes open, and look at the boys, but no! there was too much of this fluid. He shut them again, and "bobbed" his head up and down again in a curious manner.

L. Yes, he was dazzled by the light. Light—that is the fluid you mean, papa.

P. That is it. In learning about this earth of ours, you will find that THE LIGHT is almost as important a fluid as heat.

God's holy Word begins with some physical geography. It tells us that before the Great Creator divided the dry land from the water, and made the firmament, He said, "LET THERE BE LIGHT! and there was light."

Ion. Ah! I think about that sometimes, papa. It must have been very difficult stuff to make—so *thin.* I wonder how God made so much at once.

P. It may seem very curious to you.

Ion. But nothing is difficult to GOD.

W. Oh! I should like to have been in the world before it was made, when it was all dark and rumbling; that is, if I could have found a place to sit down upon. And how beautiful it would have been, to see the first bright stream of light come across the dark world! and, afterwards, to have seen the waters divide themselves from the land! that would have been the way to learn physical geography!

P. Ah, Willie! you could not have been there. The air was not fit for man to breathe. God had not made the earth ready for him.

L. But, papa, I cannot understand why you call the light *fluid.* I suppose it has not any particles.

P. It is hardly right, Lucy, to say that it is a fluid, or that it has *particles.* It is often called "the motion of a fluid," for when the sun shines, we see the light moving up and down with a "wavy" motion, something like the waves of the sea. The fluid which moves we call "Ether."

L. I do not understand it very well, papa.

P. No people understand it perfectly yet; neither can you. I only wish you, in beginning your physical geography, to know at first how you are to proceed. You will now have five great subjects—repeat them, Willie.

W. The Earth, Water, Air, Caloric, and Light. Now please to let us know how Adolf began.

P. He began by saying, "I do not know *where* to begin." So, he sat down on the grass to think. "Perhaps," he thought to himself, "the most regular way will be to begin with the part of the earth nearest to me. As I live on *the crust of the earth*, I will first learn what this crust is made of; then I will work my way downwards, and see what there is below." So he pulled up some roots of the grass, and underneath he found that the earth was very chalky. Then he dug out a piece of chalk, and sat down to examine it.

W. Oh, papa! *we* can do that ourselves—there is some chalk in your tool-box.

P. Then you may go and fetch it; and we will see what we can learn from it by taking notice.

W. Here it is. Before we begin, I should like to tell you something which you cannot discover by observing it. This chalk is almost entirely composed of a substance called LIME, with a little carbonic acid.

L. What is carbonic acid, papa?

P. I am afraid I have not time to tell you now. We must talk about the LIME. Lime is a very important substance. It is found all over the earth, and forms about *half-a-quarter* of its crust.

You cannot find any part of the earth which is made *entirely* of Lime. It is never *pure;* that is, it is always mixed with something else—either with carbonic acid, or fluoric acid, or some other acid, which you do not yet understand. The different sorts of earth which are formed from it, are called *calcareous* earths, from a Latin word, *calx*, which means lime.

Ion. And are the stones which are made from lime, called "calcareous stones?"

P. Yes. But lime is not only found in earth and stones, but even in vegetables and animals.

Ion. In *animals*, papa! Have I any lime in me?

P. Yes, Ion. In your *bones*, for instance—the greater part of them is lime.

L. Just as a snail's-shell is lime: so is an oyster-shell, is it not?

P. The oyster-shell is nearly all lime, except the sticky substance from the animal, which glues the particles together. Egg-shells too—Did you ever notice how white they are? Nine parts out of ten are lime. There is lime, also, not only in the shells of mussels, cockles, cowries, crabs, and lobsters, but in the coverings of insects—in their horny rings.

W. Will you tell us some *stones*, papa, which have lime in them?

P. Yes. The stones which are being used now for building the new church—they are called "Portland-stone." St. Paul's, and the Monument, and some of the bridges over the Thames are built with it. This stone is found in DORSETSHIRE. There is a very white "Lime-stone" found at BATH, and called "Bath-stone." The paving-stones have lime in them. The door steps, too. There is a very hard white lime-stone forming part of *this room*. Look for it!

L. Do you mean the *marble* of the mantelpiece, papa? That is very white!

P. Yes. That is a "lime-stone." And there is something else on the mantelpiece which is almost *pure* lime. It came from DERBYSHIRE.

Ion. I think you mean the piece of *spar*, papa. The "fluoric spar," as you call it.

P. Yes. It is called "fluor spar," because it consists of lime united with "*fluoric* acid." And there is something else on the mantelpiece which is composed of lime.

Ion. The alabaster ornament?

P. That is it. And there is something else.

W. Oh! The image of Sir Walter Scott! It is made of plaster-of-Paris, and that is exactly like lime.

P. That is quite correct. Both the plaster-of-Paris and the alabaster are made of lime, and another acid called sulphuric acid.

W. That makes three acids you have mentioned, papa—carbonic acid, sulphuric acid, and fluoric acid. What hard names!

P. And there are general names for the substances formed with these acids. For instance—

Chalk, Marble, Portland Stone, Bath Stone, &c., which consist of lime united with carbonic acid, are called "CARBONATES" OF LIME.

Alabaster, Plaster-of-Paris, &c., consisting of lime and sulphuric acid, are called "SULPHATES" OF LIME.

And spar and other things made by the union of lime and fluoric acid, are called "FLUATES" OF LIME.

Ion. We shall have to *learn* those names, when we have written in the lesson,—they are so *hard!*

P. Well. Try and remember them. It is a good thing to have hard names to remember sometimes, even if you do not know what they stand for. I think we will stop now, and finish our lesson on Lime next time.

W. Papa, may we make up our physical geography lessons from the beginning? for I am getting into a confusion. Lucy has her pencil and paper ready.

P. Then begin, Lucy.

L. Lessons 1, 2, *and* 3. PHYSICAL GEOGRAPHY.

(1.) *In learning physical geography, we shall have to notice, first, the solid parts of the world, or* THE EARTH; *then the liquid substance, the* WATER; *then the different fluids, viz.:*—THE AIR; CALORIC; *and* LIGHT.

(2.) *The solid* CRUST OF THE EARTH *is composed partly of a substance called* LIME.

(3.) *This lime is never found* pure, *because it unites with (or has an affinity for) carbonic acid.*

(4.) *Thus it is found in many different substances. It forms earths, which are called* CALCAREOUS EARTHS. *It forms part of the* ANIMALS AND VEGETABLES.

When it unites with carbonic acid, it forms CARBONATES OF LIME, *such as Chalk, Marble, Portland-stone, &c.*

When it unites with sulphuric acid, it forms SULPHATES OF LIME, *such as Plaster-of-Paris, Alabaster, &c.*

When it unites with fluoric acid, it forms FLUATES OF LIME, *such as Fluor Spar, &c., &c.*

My father, my mother, I know
  I cannot your kindness repay;
But I hope that, as older I grow,
  I shall learn your commands to obey.

You loved me before I could tell
  Who it was that so tenderly smiled;
But now that I know it so well,
  I should be a dutiful child.

THE TRAVELLER THROUGH ENGLAND.—NORTHUMBERLAND.

Ion. Papa went away before breakfast this morning, and now he cannot give us our Drawing Lesson; what are we to do?

L. Oh, he has given me another letter of Mr. Young's, so let us sit down together and read it:—

MY DEAR CHILDREN,—

I awoke very late the next morning, and made haste across the stable-yard to give Peg her feed of corn.

"Good morning, landlord," I said at breakfast-time. "I want you, if you please, to tell me if you know any places in Northumberland which are worth seeing."

"Well, sir, I am going on business as far as Lindisfarne, or 'Holy Island,' as we call it; and I will show you some part myself. I will order the ostler to get your horse and mine ready at once." While he was gone, I looked at my map to observe Northumberland more closely; and, if you look at *your* map, you will see that this county has three corners, and is almost of the shape of a triangle. You may see, too, that it is the most northerly in England; and that it is bounded on the *north* by the **RIVER TWEED**; on the *south* by **DURHAM**; on the *east* by the **NORTH SEA**; and on the *west* by **CUMBERLAND AND SCOTLAND.**

The landlord was soon prepared; and after I had paid the bill, we started. When we had crossed the bridge on the Tweed, and had gone a little distance, he told me that a large piece of the country, near the sea, was not called Northumberland, but was a part of Durham. "You see, sir," he said, "we are now travelling in a southern direction. Here is the ocean on our left; and, in the distance before you, just a little way out at sea, is Holy Island. A great Saxon monk, called **ST. CUTHBERT**, died and was buried there. His body was removed to many different places, for fear of the Danes. You can now just see the ruin of the cathedral, which they built over the place where they buried him. Look at the perpendicular rock there, and see how strong the castle is. But only a few fishermen live in that island now."

"How rocky all the coast is about here!" I said.

"Yes, sir. And it is so along all the coast of the county, from the Tweed to the Tyne. It is a very dangerous coast, for there are rocks under the water, which cannot be seen; and the vessels sometimes strike against them and are wrecked. The ships, as they pass, keep far out at sea, so you will find that there are no 'harbours' here."

"But," I said, when we had passed Lindisfarne, "some of the rocks are higher than the water, and form little islands. What do you call that pretty group of islets? They seem to be nearly two miles away from us. Lend me your telescope Do any people live there?"

"Not many, sir. Only one of them is inhabited. They are called the **FARNE ISLANDS.** The largest of them has only just enough grass to feed a cow. But, still, they are inhabited. You should see the *birds* there. There are thousands of Eider ducks, cormorants, gulls, and other sea-fowl, which build their nests in the hollow places of the rocks. In one island, you can hardly put down your foot without treading on some nests or young birds. The nests of the Eider-duck are very valuable. They are built of grass, sea-weed, and moss; and, when the old birds want to make a soft lining for their young ones, they actually pluck out the down from their own breasts. The men who own the islands take the down away from these nests, and sell it at a great price."

Ada. What is "down ?"

Ion. I know what *down* is. Mamma has a thing made of down in the baby's powder-box. She calls it a "puff."

"What," I said, "is the name of that castle on shore ? It is standing on a high piece of rock which stretches far into the sea—on a *promontory*."

"That, sir, is called Bamborough Castle. It was fitted up by Lord Crewe, the Bishop of Durham, in 1720, as a refuge for poor sailors who might be shipwrecked. A life-boat is always kept ready there ; and people live in the castle, that they may be on the watch for any ships which may be blown on the rocks in stormy weather. They have tools and 'tackle' provided for raising sunken goods, and warehouses to put them in."

On one of the Farne Isles is a Lighthouse, where Grace Darling and her father lived. Let me tell you the story of Grace Darling, sir!

"Well, sir! One dark night, some mariners, with Grace Darling and her father, were looking out on the stormy sea. They could not *see* much, but they could *hear*, and they knew by the moaning noise which the waves were making, how frightened they were at the weather.

"The wind, perhaps because it was dark and no one could see, not only howled at the waves with rage, but, in its bad temper, it beat them, and drove them in all directions, to make them get out of its way. The poor waves seemed to have no place to go to! They rushed over each other in a mad hurry, and rose up in the air like high hills. They seemed to be trying to reach the land, but as the cold wind struck them, each disappointed wave would shiver and fall, and scatter itself with a sorrowful roar.

"Whilst the men were listening to them, and trying to see through th blackness of the night, they heard th report of a gun. They knew by this, that there must be a ship in distress; and after some time, they found that a steamer, full of passengers, had struck on a rock near one of the Islands! In the morning, with the help of a telescope, they could see, through the mist, the suffering people holding fast to the wreck, and crying for help.

"But, who could help them? There was the life-boat waiting, but *who would row it?* It must be one with a strong arm for the oars, and a heart full of courage. Who would face such an angry wind ? It might strike the boat, and scatter it amongst the waves. They knew that Death was going to work in that ship, and they knew that he would come and meet *them* on the sea, if they tried to hinder him. Who would go to meet Death ?

"No sailor liked to meet him. Yet, no one, sir, likes for others to be drowned. Grace Darling did not She had some little strength, though she was only a girl, and she begged her father to go with her across the ocean."

"Did she go ?" I said.

"Yes, sir. And God, who was in her heart as she entered the boat, was in the storm as she crossed the shaky billows, and He led her safely on to the ship.

"They found it to be "The Forfarshire" steam-packet, full of people crying for help. They filled their boat, and rowed it back to the land. There, in the warm room of the lighthouse, how pleased was Grace Darling to look at nine people, all dry and safe, who would by this time have been dead bodies in the cold sea, if God had not helped her to save them! And, when the people blessed her, and thanked their Heavenly Father, she felt not only happy for them, but happy for herself, that she had done so noble a deed. She had risked her own life to save them."

"Well, sir,. said the landlord, "I must wish you good-bye, now. I have to go to Lindisfarne, and must be home again by five o'clock. You will find more interesting places in Northumberland yet."

"Good day, landlord," I said, "I am much obliged to you."

Peg then trotted along for some miles, until we came to **Alnwick**. After dinner I made these notes, which I send you, dear children, with my letter.

Your affectionate friend,
Henry Young.

Notes.

(5.) *On the* **River Tweed** *there are two remarkable places.* **Norham Castle,** *where King Edward I. lived when he came as an "umpire" to Scotland: and* **Berwick,** *an independent town, which was besieged by Edward I. and again by Henry IV. and made independent in the reign of Edward VI., after having suffered very much in the Border wars. Its trade is in pickled salmon and corn.*

(6.) **NORTHUMBERLAND** *is a county in the shape of a triangle.*

(7.) *It is bounded on the north by* **Scotland**; *on the south by* **Durham**; *on the east by the* **North Sea**; *and on the west by* **Cumberland.** *It is the most northerly county in England.*

(8.) *The coast is very rocky and dangerous, so that there are not any harbours worth mentioning.*

(9.) *On the coast of a part of Durham, which is between Northumberland and the Tweed, is* **Lindisfarne,** *or Holy Island.*

At the south of Lindisfarne are **the Farne Islands,** *frequented by Eider-ducks, from which valuable down is procured.*

Opposite these islands, on a promontory, is **Bamborough Castle,** *a refuge for shipwrecked sailors.*

No one should have a horse like "Peg,"
Who'd take delight to beat her;
The wise would choose a better course,
And very kindly treat her.

If ever it should be my lot
To have, for use or pleasure,
One who could safely walk or trot,
That horse would be a treasure.

He soon should learn my voice to know,
And I would gently lead him;
And should he to the stable go,
I'd keep him clean, and feed him.

Should he grow aged, I would still
My poor old servant cherish;
I could not see him weak or ill,
And leave my horse to perish.

For should he get too weak to be
My servant any longer,
I'd send him out to grass quite free,
And get another—stronger.

PLEASANT PAGES

FOR THE

6th Week. **MONDAY.** **Moral Lesson.**

TRUTH.

W. Poor papa has the headache—here he comes.

P. I am not very well this morning, and cannot think of any "moral lesson" for you, but I have brought you one of my old books to read. It is written by Miss Edgeworth, and although it has not any pictures, nor a red cover, nor gilt edges, yet it is a very beautiful book; and it contains a story about TRUTH, which will do you good.

L. Oh! I know this book, papa. Here is the old tale about Frank—and another about Rosamond. This is the tale we are to read, I think, because the leaf is turned down.

P. That is right. You may read it.

THE WAGER.

"ROSAMOND, you did not water your geraniums last night," said her mother.

"Yes, mamma—no mamma, I mean; because I could not find the rose of the little green watering-pot."

"You did not look for it, I think, my dear—it was on the shelf, directly opposite to you, as you go into the greenhouse."

"That shelf is so high above my head, that it was impossible I could see what was upon it."

"But, though the shelf was so high above your head, you could have seen what was upon it, if you had stood upon the stool, could not you?" said Godfrey..

"But the stool was not in the greenhouse."

"Could not you have gone for it?" said Godfrey.

"No, I could not," replied Rosamond; "because it was very hot; and mamma had just desired me not to run any more *then*, because I was too hot."

"Run!—But could not you have walked, Rosamond?"

"No, brother, I could not—I mean that if I had walked, it would have done no good, because one of the legs of the stool is loose, and I could not have carried it, because, you know, it would have dropped out, every instant; and, besides, it is very dangerous to stand upon a stool which has a loose leg.—Papa himself said so, Godfrey; and he bid me, the other day, not to stand upon that stool.—Besides, after all, why should I have gone for the stool?—How could I guess that the rose of the watering-pot was upon that high shelf, when I did not see the least glimpse of it?"

"Good excuses, Rosamond," said Godfrey, smiling, "and plenty of them."

"No, not good excuses, brother!" cried Rosamond—"only the truth——Why do you smile? I never make excuses.

"Now, mother, you shall be judge. Do I *ever*—I mean, do I *often*, make excuses?"

"Only seven, if I remember rightly, within the last five minutes," answered her mother.

"Then, mamma, you call *reasons* excuses?"

"Pardon me, my dear, I did not hear you give one reason, one sufficient reason. Now, Rosamond, you shall be judge—I trust you will be an upright judge.'

"Upright! that is, honest—Oh, certainly, mamma!"

"Could not you have watered the geraniums without the rose of the little green watering-pot?"

"Why, to be sure, mamma, I could have used the red watering-pot, I own."

"Ah! ah!—Now the truth has come, at last, Rosamond!" cried Godfrey, in a triumphant tone.

His mother checked Godfrey's tone of triumph, and said, that Rosamond was now candid, and that, therefore, this was not the time to blame or laugh at her.

"Mother," said Godfrey, "I should not have laughed at her so much this time, if she was not always making excuses; and you know——"

Their mother was called out of the room before Godfrey could finish what he was going to say. He had said enough to provoke Rosamond, who exclaimed—

"You should not laugh at me, Godfrey, because I am candid—mamma said so—And I am not always making excuses."

"Well, Rosamond, I will acknowledge, that you are not *always* making excuses; but I will lay you any wager you please, that no day passes, for a week to come, without your making half-a-hundred at least."

"Half-a-hundred! — Oh, Godfrey!—I am content!—what will you lay?"

"My head to a china orange," said Godfrey.

"I would not give you a china orange for your head," said Rosamond; "besides, that is a vulgar expression. But I will lay you all my kings, Godfrey, against your world, that far from making half-a-hundred, I do not make more than one single excuse a-day for a week to come."

"I take you at your word," cried Godfrey, eagerly stretching out his hand—"Your kings of England against my joining map of the world. But," added he, "I advise you, Rosamond, not to lay such a rash wager; for you will be sure, to lose, and your kings are worth more than my world, because I have lost some little bits of it."

"I know that; but I shall keep my kings, and win all you have left of the world, you will see."

"Then we begin to-morrow; for you know to-day cannot be counted, because you made seven in five minutes."

"I know that," interrupted Rosamond—"To-day goes for nothing; we begin to-morrow, which is Monday."

Monday came; and so strict was the guard which Rosamond kept over herself, that she did not, as even Godfrey allowed, make one single excuse before breakfast time, though she was up an hour-and-a-half. But, in the course of the morning, when her mother found some fault with her writing, and observed that she had not crossed her *tees*, Rosamond answered—

"Mamma, it was the fault of the pen, which *scratched* so, that I could not write with it."

"An excuse! an excuse!" cried Godfrey.

"Nay, try the pen yourself, Godfrey; and you will see how it scratches and sputters, too."

"But let it scratch or sputter ever so much, how could it prevent you from crossing your *tees*?"

"It could; because if I had

crossed the *tees* with that pen, the whole page would have been speckled and spoiled just like this line, where I did begin to cross them."

"Could not you take another pen, or mend this, or ask mamma to mend it?—Oh, Rosamond, you know this is an excuse!"

"Well, it is only one," said Rosamond; "and you know, that if I do not make more than one in a day, I win the day."

"There's a great blot," said Godfrey.

"Because I had no blotting-paper, brother," said Rosamond.

The moment she had uttered the words she wished to recall them; for Godfrey exclaimed—

"You have lost the day, Rosamond!—there's another excuse; for it is plain you had blotting-paper on your desk—Look, here it is!"

Rosamond was ashamed and vexed—"For such a little tiny excuse, to lose my day!" said she; "and when I really did not see the blotting-paper. But, however, this is only Monday—I will take better care on Tuesday."

Tuesday came, and had nearly passed in an irreproachable manner; but, at supper, it happened that Rosamond threw down a jug, and, as she picked it up again, she said—

"Somebody put it so near the edge of the table, that I could not help throwing it down."

This Godfrey called an excuse; though Rosamond protested, that she did not mean it for one. She farther pleaded, that it would be hard, indeed, if she were to lose her day for only just making this *observation*, when it must be clear to everybody, that it could not be meant for an excuse, because the jug was not broken by the fall, and it was empty, too; so not the least mischief was done to anything or any creature; and no one had even blamed her; so that, as Rosamond said, she had not had the slightest temptation to make an excuse.

This was all true, but Godfrey would not allow it.

"Well," said Rosamond, "it is only Tuesday; I will give it up to you, brother, rather than dispute about it any more."

"That is right, Rosamond," said her mother.

Wednesday came. Rosamond determined, that, whenever she was found fault with, she would not say anything in her own defence; she kept this resolution heroically. When her mother said to her—

"Rosamond, you have left your bonnet on the ground, in the hall—"

Godfrey listened to Rosamond's reply, in the full expectation that she would, according to her usual custom, have answered—

"Because I had not time to put it by, mamma"—or, "Because papa called me"—or, "Because somebody threw it down, after I had hung it up."

But, to his surprise, Rosamond made none of these her habitual excuses: she answered—

"Yes, mamma, I forgot to put it in its place—I will go and put it by this minute."

Godfrey attended carefully to every word Rosamond said this day; and the more she saw that he watched her, the more cautious she became. At last, however, when Godfrey was not in the room, and when Rosamond was less on her guard, she made three excuses, one after another, about a hole in her gown, which she had neglected to mend—

"Mamma, it is not my fault: I believe it was torn at the wash."

But it was proved, by the fresh edges of the rent, that it must have been torn since it had been ironed.

Rosamond next said, she had not seen the hole, till after she had put the gown on; *and then*, she could not mend it, because it *was so far behind*.

Could not she have taken the gown off again, her mother asked.

"Yes, mamma; but I had not any thread fine enough."

"But you had cotton that was fine enough, Rosamond.——Three excuses!"

"Oh, mamma!—Have I made three excuses?" cried Rosamond—"This day, too, when I took such pains!—"

Godfrey came back, and seeing his sister look sorrowful, he asked what was the matter. She hesitated, and at last said—

"You will be glad of what I am sorry for!"

"Ha!—Then I guess what it is—You have lost the day again, and I have won it!"

Godfrey clapped his hands in triumph, and capered about the room.

"My world is safe! safe!—I really thought Rosamond would have had it to-day, mamma!"

Rosamond could hardly repress her tears; but Godfrey was so full of his own joy, that he did not attend to her feelings.

"After all, it is only Wednesday, brother, remember *that!*" cried Rosamond, "I have Thursday, Friday, Saturday, and Sunday, to come—I may win the day, and win the world, yet."

"Not you!" said Godfrey, scornfully—"you will go on the same to-morrow as to-day. You see you have so much the habit of making excuses, that you cannot help it, you cannot cure yourself—at least not in a week. So I am safe."

"So that is all you think of, brother: and you don't care whether I cure myself of my faults or not," said Rosamond, while the tears trickled down her cheeks. "You wish, indeed, that I should not cure myself.——Oh, brother, is this right? is this good-natured? is this like you?"

Godfrey changed countenance; and after standing still, and thinking for a moment, he said—

"It is not like me—it is not good-natured—and I am not sure that it is right. But, my dear Rosamond! I do care about you, and I do wish you should cure yourself of your faults; only this week I wish——in short, I cannot help wishing to win my wager."

"That is very natural, to be sure," said Rosamond; "but I am sorry for it; for we used to be so happy together, and now, you are always glad when I am sorry, and sorry when I am glad; and when I do most wrong, you are most glad—And all for the sake of keeping your paltry world, and winning my poor kings!"

"No, indeed!" exclaimed Godfrey, "it is not for the sake of the world, or the kings; for you know I would give you my world, or anything I have upon earth, Rosamond."

"The wager is what I cannot give up; I must prove that I am right."

"And that I am wrong!—Ay, there's the thing!—you want to triumph over me, brother.

"I do not think such wagers are good things. Now I will ask mamma. Well, mamma, what do you think?"

"I think, my dear Rosamond, that you have reasoned better than you usually do, and that there is much truth and good sense in what you have said about this wager."

Rosamond looked happy. Godfrey, without seeming pleased, as he usually did, when he heard his sister praised, said—

"Mamma, do you really disapprove of wagers? Do not you think that it did her good, to try to cure herself of making excuses, and that my wager made her take great care?—And, you know, if she were to dislike me, because she was to lose her wager, that would still be her fault—the fault of her temper."

"Let us, for the present, leave out of the question whose fault it would be; and tell me, my dear Godfrey, do you wish to make your sister dislike you?"

"Oh, no, mamma!—you know I do not."

"Should you like a person who rejoiced when you committed any fault, who did not wish you to cure yourself of your faults?"

"No—I should not like a person who did this. I understand you, mamma—I was wrong," said Godfrey. "I will give up the wager, though I really think I should win it."

"I really think I should win," said Rosamond; "but I will give it up, if mamma advises us to give it up."

"I do advise you to give up this wager, my dear children," said their mother.

"So we will, and so we do," said both Rosamond and Godfrey, running up to one another, and shaking hands.

"And I assure you, brother," said Rosamond, "I will take as much pains to cure myself of making excuses, as if the wager was going on; and my wager shall be with myself, that I will make not a single excuse to-morrow, or the next, or the next day, and that every day I shall be better than I was the day before—And you will be glad of that, Godfrey, shall you not?"

"Yes, glad with all my heart," said Godfrey.

"And that will be a good sort of wager," said her mother. "It is better and wiser, to endeavour to triumph over ourselves, than over anybody else."

W. I can understand what we are to learn about truth, from this story. These excuses were wrong, because they were *little untruths.*

L. Yes, Rosamond did not know that they were untruths when she was saying them. She made excuses because she was not careful. She spoke without thinking.

Ion. She talked very fast, perhaps. I have often noticed how very slowly papa speaks. He is very careful in what he says. I dare say that is because he wants, first, to be sure that everything is *quite* true.

W. Yes. He told me one day to *weigh my words* before I let them come out of my lips.

Ion. I mean to try very much to learn that habit. I like to speak carefully and slowly—Now, Lucy, please make a "lesson" for us to learn.

Lucy. Yes, I will. LET US LEARN TO SPEAK CAREFULLY, AND SLOWLY, THAT WE NEVER MAY SAY UNTRUTHS

THE THREE KINGDOMS OF NATURE.

M. You have in your former Natural History lessons seen something of the order which the great God makes in his works. To-day, we will begin at the very beginning, and notice Nature with much more care and minuteness.

The Bible, you know, tells us that "In the beginning God created the heaven and the earth"—and, after He had made the firmament, He said, "Let the waters under the heaven be gathered together unto one place, and let the dry land appear"—and it was so. Then this world consisted of broad plains, rocks, and tall mountains—the restless Ocean moving backward and forward—and the Air surrounding it.

But it was a dreary place, for it was not yet finished. This was only the third "day."

How brown, how bare and desolate the hills must have seemed as the light came across them! The world was nothing but Earth, Water, Air, and Light. This was the first great division of God's works. Can you tell me why they were so dreary?

W. I can, mamma. Because, none of these things had *life.* No wonder the hills were so brown, they had no grass on them.

M. That was the reason. Now, there is a proper name for all these works of God, which were made without life. They are called MINERALS.

But, in the course of that third day, there came springing up from the earth, millions and millions of little green blades,—all living and growing. And there were "trees yielding fruit after their kind." Now the Earth looked more cheerful, but it was dreary, still.

Ion. Yes, the Earth had life in it, but not the sort of life we have. Everything was quiet and still,—it was "*still* life."

The grass, and herbs, and trees formed another great division of God's works, which were called—

L. VEGETABLES.

M. But, on the fifth day, there was music in the Earth. Through the AIR, and on the Trees, flew "winged fowl," singing many a song. Through the WATER swam "great whales" and fishes. On the sixth day, there came "creeping things" upon the EARTH, and "cattle after their kind." Thus the Creator made another great division to inhabit the Air, Water, and Earth, which division we call—

L. ANIMALS.

Thus, then, was the work of Nature divided into *three great divisions.*

One, which had *not* life, called—
The MINERAL KINGDOM.
And, two which have life, called—
The VEGETABLE KINGDOM, and
The ANIMAL KINGDOM.

Let us talk a little more about these three "kingdoms."

I have brought you a box, containing something from each kingdom.

Here is a small stone from the Mineral Kingdom.

A small acorn, of the same size, from the Vegetable Kingdom.

And, a small chrysalis, of nearly the same size, from the Animal Kingdom.

L. They appear something like each other.

M. But still, you know they are very different. There is, however, something pleasing in each one.

That STONE is very old, perhaps

older than Adam. It has been a stone for thousands of years! It will be the same stone during thousands of years to come. If it could know and speak, it might tell of many changes in Animals and Vegetables, but of no change in itself.

If I were to leave it in this box, here it would always remain; and, as the world rolled on, and ages of time passed away, we should change and decay—the box would crumble to dust, but here the stone would be; it would never move nor change, but still be the same old stone.

Ion. What fine old fellows stones are! Ah, I'll never kick a stone again.

M. Then,—the Acorn. It does not seem very different, but somewhere inside it, is the something we call *life*. If we were to put all three of these things in the ground, whilst the stone would remain stone, the Vegetable would—but, you shall hear what I once read in a book about a seed. Listen—

"The *Seed* would swell and burst—it would put forth a root; and, thus holding fast to the earth, it would push up a green shoot. The *Shoot* would rise above the ground; and, feeding itself from the Air, Water, and Earth, would increase its thickness every year, and become a stately Tree. The *Tree*,—spreading its branches far and wide into the air, and its roots into the soil, putting forth buds, in the spring, which open to clothe it with leaves, and adorn it with blossoms—would then repay the earth for its bounties with a rich return of fruit and seed."

"Continuing the same course for hundreds, or even thousands of years, it would remain an object of wonder and admiration to successive races of men—it would belong to many a tradition, and many a tale of the olden time handed down from father to son; and thus it would be looked at with respect, or even veneration,—and still flourish, while generation after generation would pass away, and be forgotten."*

W. I like to hear that. Please, mamma, let me run and put it in the ground at once.

L. But, after all, mamma, it would not last so long as the stone.

M. No; for it *has life*. Everything which has life, will have death. As soon as it has done growing, it begins to die. It reaches its glory—its fulness of life—then, little by little, it loses that life, and returns to dust again.

Ion. And the Chrysalis, mamma. If that were put in the ground?

M. That would become a butterfly. Soon it would show how much life it had; much more life than that of the tree. It would not remain fixed to the Earth, but away it would fly—you know where! over flowers, fields, and hills! But, although it seems so full of life, that life is shorter—not so many hours, as the tree numbers years.

W. Ah, that is curious. The Animal, which is so full of life, changes soonest. The Vegetable does not change so soon. The Mineral, which has *no* life, never changes at all.

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* Hugo Reid's Botany.

LITTLE SISTER.

I HAVE a little sister,
She is but two years old,—
Yet, to us at home, who love her,
She is worth her weight in gold.

THE NORTHERN BARBARIANS.

P. Well, Willie, you were very glad that the Romans left Britain, but I do not think that the Britons were.

In the first place—The Romans had so changed the appearance of the country, and had made it look such a happy place, that it seemed quite a pity to leave it. There were now many large cities, with strong walls and towers—many large houses, beautiful gardens, and even aqueducts. I told you, too, that they had schools for their children, and more than that, they had temples where they worshipped the true and living God. They had heard, too, of Jesus Christ; and some, perhaps, had learned his kind spirit, and knew the way to heaven.

In the second place—Before the Romans went away, they had sent an army of the strongest and finest young men in Britain to help in defending Rome against the crowds of savage people who were attacking the city. They now took many more Britons with them, so that there were not enough fighting men left to defend the country.

In the third place—There was no one left to *govern* the island; and, a people cannot easily learn to govern themselves. Many of the Britons who lived in the cities, and were civilised, as I said, had been married to the Romans:—they wanted to obey the good Roman laws. Some, however, were not civilised, and wanted to be rude and savage again; and the people then began to quarrel amongst themselves, to see who should be masters. So, it really was a great pity for the Romans to leave Britain, for they might have made it a very fine kingdom.

But we must now leave Britain ourselves for a little while, and travel to the north of Europe.

L. Who are we to see there, papa?

P. OUR ANCESTORS! I will give you a picture of them. They were tall men, with round faces, broad foreheads, brown hair, and blue eyes. If you had asked them where they came from, they would have said that the god Tut (pronounced Toit) sprang up through the earth, and made a man; and this man made more men. Others would have told you that they sprang from the rocks, and the earth. And then they would have told you some wonderful tales about their gods, THOR, WODEN, and others; and have given you such an account of the gods SUN and MOON, of the water-spirits, spirits of the mountain, and other strange beings, that you would have wondered very much, and perhaps would not have believed them at all.

These ancestors of ours wandered about in a country which had formerly been covered with an immense black forest. There you might once have seen bears, and even rein-deer. The rivers were often frozen over, and the land was covered with fogs, thick marshes, and large tracts of heath.

Throughout this country, at the north of Europe, in the parts which we now call Germany and Scandinavia, our ancestors roved about almost in a savage state; some of them living in huts built on wheels,* which they moved from one place to another. For, although many of them grew oats, and a coarser kind of grain, in the times of Julius Cæsar,—yet no man had any land to call his own; their families were forced every year to remove to some new spot.

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* Rotteck.

Like most savages, they loved to be strong and to fight. They would bathe themselves and their little children in the frozen rivers, that they might become hardy; and would hardly wear any clothes, even when it was cold.

They were still savage people in the year 430, when the Romans left Britain. They had, already, fought many, many hard battles with the Romans. They had once taken the city—and now that they knew Italy to be a warm, pleasant country, and Rome a very beautiful place, they determined to go there, and were travelling from the north to the south of Europe by thousands and tens of thousands.

Not only these people. Mighty streams of men, from other northern and eastern countries, rushed down, and pressed them forward.

Just as the heavy waters of some grand river, which has been swelled by the rains, and is overflowing, move on to find a resting-place—first, coming with silence, at last, with a roar and a crash, sweeping on everything before them; so, from the cold countries came crowds of wild and grizzly men, opening wide their round eyes to see strange places; and, with the force of the deep stream, new races and tribes pressed on like strong waves to the south of Europe, to swallow up the city of Rome.

W. How the Britains who went to Rome must have had to fight!

P. Hear of the barbarians! They came to the snowy Alps. From these high mountains they looked down on the fruitful valleys of Italy. Then, as they felt the pushing and pressure behind, they moved forward, and, pouring down in continual torrents, soon the city of the Romans, and the countries they had conquered, were filled with Goths, Huns, Ostrogoths, Visigoths, Vandals, Suevians, Burgundians, and all manner of big, burly fellows, who destroyed the beautiful cities, and danced on the ruins they had made, as delighted, as fierce, and as savage as bears!

Ion. Was England conquered too, papa?

P. You shall hear. England, you know, is an island, and must be reached by boats, or ships. These barbarians were now only spreading themselves over *the continent.*

Our German ancestors, whom I spoke of, were living at the North, and were divided into many tribes. A tribe called Saxons lived the life of pirates, for they had ships in which they used to put out to sea, and rob other nations.

These Saxons one day received a message from the Britons, asking them to come over to their island.

Ion. Did the Britons *ask* them, papa? That was a dangerous invitation. I would never invite a robber to come and see me.

P. Do not be sure, Ion. You do not know what you might have done. In the next lesson you shall hear why they did so, and what happened.

AN EGG.*

M. How many parts can you find in this egg, Ion?

Ion. Please give it to me, mamma, I will see. There is the *outside*—you gave me another name for outside once—the "exterior." The *inside*, or "interior." Then, the outside has a smooth *face*.

L. That is called the *surface*.

Ion. Then, there is the shell itself, the *white* of the egg, the yellow part—I forget the name for that, mamma.

M. The *yolk*.

Ion. Yes, the yolk; and I don't think I can find any more parts.

W. Don't you remember, that when you open the egg, you find a thin *skin* inside the shell?—that is another part.

M. And there is another part inside, which is intended to become a chicken. You can hardly tell it from the white of the egg. We will call it the *embryo*.

Ion. Then, there are seven parts in the egg. I will say them. The exterior, the interior, the surface, the shell, the skin, the white, the yolk, and the embryo.

W. I did not think it had so many parts. Please, mamma, to let me have it now, and I will find out its qualities. Come, sir, what sort of an egg have you?

M. You had better examine *one part* at a time, Willie.

W. Then I will take its shell first, mamma. It is *white*—that is certain. It is smooth. Let me tap it. It is hard. I wonder what shape it is. *Round*, I think. No, not round exactly—it is a long round; I will call it *oval*.

The egg-shell is thin. I can't *observe* that without breaking the egg. Now, Ion, please to repeat the qualities of the shell for me.

Ion. The EGG-SHELL is white, smooth, hard, oval, and thin. But you have left out something—it breaks with sharp edges, it is *brittle*. May I break it, mamma? Then Willie will see, for I want to examine the *white* of the egg.

M. Yes—here is a cup.

Ion. There—crack! See how brittle it is. How quickly the white flowed into the cup—it is *fluid*, that is certain. And, it is *sticky*, for it is sticking to my finger.

M. It is more than sticky, Ion. It will even fasten two substances together. There are many things which are sticky, and yet will not *join* two substances.

L. Yes, mamma, butter is, and lard. They are sticky; but you could not fasten a letter with either of them.

W. Tallow is only *sticky*, and oil and treacle. The juice of oranges, too, and of gooseberries.

M. But when any substance has so much stickiness in it that it will fasten two things together, it is called *adhesive*. This word "adhesive" is made from the Latin word "adhærere"—to stick to. Now think of some adhesive substances.

L. Gum, mamma. They put it on envelopes to fasten them. Ah, and that is why they are called "adhesive envelopes."

W. Glue, paste, wafers, and postage-stamps are adhesive.

Ion. How can that be, Willie! the stamps are made of paper

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[*] The author has to acknowledge that the *idea* of these lessons is obtained from Miss Mayo's "Lessons on Objects;" and that, as he has often chosen the same subjects, the details are, necessarily, in some respects similar.

You mean that the gum at the back of them is adhesive.

M. No, Ion. Willie was right, for the gum, you must remember, is a part of the stamps; but you are forgetting the white of the egg.

Ion. Well, the white is fluid, sticky, and adhesive. I can see through it—so it is *transparent;* but, when you boil it, it is not—it is *opaque* then.

L. And when you boil it, it is not fluid—it is *solid.*

W. Now I will say Ion's "qualities" for him. The WHITE is fluid, sticky, adhesive, and transparent; but when boiled, it is solid, and opaque. Here is the cup, Lucy—you must describe the yolk.

L. The yolk has a smell—so it is *odorous.* It has a colour—it is yellow. You cannot see through it, so it is opaque. There! The YOLK is odorous, yellow, and opaque.

Please, mamma, I am very anxious to hear the egg's history; for I often wonder how the hens can make so many eggs, and all exactly of the same shape.

Ion. And they always seem so pleased when they've made one. They sing out such a cackle and noise afterwards, and seem to think they have done something wonderful.

W. Yes, at uncle's farm in the country there was one young hen in particular who was very proud She would persuade some other hens to help her, and would "go on" for half an hour, as much as to say, "Come and see what I have made—isn't it a beauty!" But, mamma, where do they get the nice stuff to make such fine white shells?

M. That "nice stuff" is chiefly procured from the *lime* which you pheard in your Physical Geography lesson. You have learned, too, that the snail's and crab's shells are made from lime.

At the time for laying eggs, the hens may often be seen looking about for lime, which they eat to form shells. Is it not curious that the hens should know that mortar contains lime? If they find a piece on the ground, they will "peck away" at it, and will even pick out the mortar from a brick wall. Pigeons will also do this.

You know that the egg, if warmed for a long time, will change into a chicken; and not only chickens, but the young of many other animals, come from eggs.

W. Yes, mamma. Young birds do—and the butterfly, or rather the caterpillar, is born in an egg. And fishes. You told me once that the little round things in the roe of the herring were eggs.

Ion. And flies lay eggs, and lobsters, and shrimps.

M. Ah! and many more animals. Fleas, scorpions, black beetles, snails, snakes, frogs, crocodiles, bees, and all insects. I could tell you some curious tales about eggs, but we must leave off now, and make up the lesson.

Lesson 6. AN EGG.

(1.) *The egg has an exterior, interior, surface, shell, skin, white, yolk, and an embryo.*

(2.) *The* SHELL *is white, smooth, hard, oval, thin, and brittle.*

(3.) *The* WHITE *is fluid, sticky, adhesive, and transparent; but, when boiled, it is solid, and opaque.*

(4.) *The* YOLK *is odorous, yellow, and opaque.*

(5.) *Eggs are made by birds, and other animals, for the purpose of producing young ones. Fishes, Reptiles, and Insects, lay eggs.*

(6.) *Eggs are also useful to mankind, who eat them.*

THE TRAVELLER THROUGH ENGLAND.

My dear Children,—

Alnwick Castle is a fine place. The Duke of Northumberland lives in it. Some of the Alnwick people seemed very proud of their castle. They told me that it was first built by the Romans, and that it is the most splendid old castle in England, except Windsor Castle, where the Queen lives.

However, I did not stop to look at it, but set off again early in the morning, as I had written to a gentleman in Newcastle—a coal-factor—to say, that I intended to call on him next day, and to visit a coal-mine.

I passed five more castles, and another island, called Coquet Isle, which, I heard, was famous for rabbits. There was a large castle, also, at the large town, Morpeth, where I slept.

On Thursday morning, I arrived at Newcastle, which is the "capital" of the county. The word *capital*, you know, means the chief town. After finding a stable for "Peg," I took a walk by the side of the River Tyne, on which the town is situated,—just as London is situated on the Thames.

Near the quays, which are places where ships are unladen, I saw a great number of heavy looking vessels, called "Keels," or "Colliers." There were, also, more than a hundred strong, rough men, with black hands and faces, who were called "Keelmen." They were busy lading their keels and barges with coals, which were to be taken down the river.

"Where are all these coals sent to?" I said to a keelman, who was standing still for a minute

"'Sent to, sir? Sent everywhere, to be sure. At least, I suppose so. In one year, sir, we have 'exported' from this place as much as 1,562,340 tons of coals — that's pretty well, sir, arn't it? Round about here, sir, and in a great part of Durham, is what we call *The Great Northern Coal-field*, from which most of the London folks procure their coal."

"There are a great number of you keelmen," I said.

"Yes, sir, a great number. Most of us live at Gateshead, in Durham, a place which you may see on the other side of the bridge."

"Thank you," I said. "Good morning!"

I then took a walk through the town. Some of the streets were very dirty and narrow; but other parts were newer—more *modern*, as we say—and handsome.

I stopped to look at the large new Market-place. Then, I went to see the old Castle, where Edward I. once lived, and where David Bruce was kept prisoner. I saw some large iron foundries, glass works, and manufactories where machinery was made. In the afternoon, I called for my friend the coal-merchant at his place of business, as I had promised, and we went together to see one of the coal-mines.

We had not to go a very great distance. On our road, we saw the ruins of a very old and thick stone wall, which my friend pointed out to me.

We soon came to the entrance to the mine. This entrance was a pit, which looked like a broad, dark well, and was called "the shaft." An engine-house with a tall chimney was built over the shaft; and, not far off, we saw long rows of smaller houses, in which the miners lived, and another building, with *two* tall chimnies.

Round about us, there were trains of square trucks on railroads—some were empty, and others were full of coals, which had been "screened," and were ready to be carried away.

Ion. I wonder what *screened* means. I will ask papa when I see him.

Inside the engine-house, I heard an engine coughing and puffing away, as though it had some hard work to do. I found that it was busy pumping out water from the mine; for there are always springs under the earth which would soon fill the mines with water, if it were not pumped out. There was another engine trying to be as active as his neighbour, for—all day long, without stopping—he went on, in his own regular way, letting down empty baskets, and drawing up full ones. The ropes to which the great baskets were tied were made of twisted iron wire. When I saw this, I did not feel afraid that they would break, so my friend and I stepped into an empty one. One of the colliers—that is, a man who works in the coal-trade—came with us, and down we went. "Hold fast to the rope, sir," said the collier. "How dark it is!" "How cold it feels!" I said. "What a curious smell!" "What a singing in my ears!"

"Here we are, gentlemen." I stepped out, and felt very giddy, but managed to walk a little distance; I then saw that we were in long, dark passage, or gallery; and that there were great pillars of coal, which were left to support the roof. I also noticed the curious lamp in the hand of the collier;—it was made of iron wire, and he called it his "Davy."

In time, we came to a busy scene of miners working with pickaxes and shovels. There were men and boys filling the trucks with coal. Men and horses drawing them along. After seeing many parts of the mine, we sat down to rest. I then made no less than four pages of notes; for my friend, the coal-merchant, and the collier, told me many things about mining, the Davy lamp, and accidents in mines from water and fire-damp,—all of which you shall read one day, when I have time to write you some letters on Trades. Soon afterwards, we found our way back to the *shaft;* our friend, the engine, pulled us up again, and I went home quickly to my friend's house, with a bad headache. We were both very glad to have a cup of tea.

"Are there many more coal-mines in Northumberland?" I said to my friend after tea.

"Yes. There are many around Newcastle, and in other parts. There are, besides, iron and lead mines. Most of the riches of this county are found under the ground—but very little grows *on* it. In many parts you may dig, and plough the land, and sow vegetables, but, as they spring up the cold east winds nip them, and make them grow very slowly."

Ion. Anybody could tell that they would have a cold north-east wind, in Northumberland, for,—look at the Map. See how the wind must blow from the North Pole across the Northern Ocean. I wonder what they call land when it is not fruitful.

W. It is then called *barren;* and fruitful land is called *fertile.*

L. Yes; the letter says so—listen!

"There are," said my friend, "some parts which are fertile. If you open your Map, sir, you will see hills, beginning near the Tweed, and stretching along the western side of Northumberland. They are called the "Cheviot Hills," and between these hills are broad green places where sheep feed."

M. The green places between the hills are called *valleys*.

"I should advise you, sir, to visit those hills, when you go to Cumberland."

"Are there any other places worth noticing in this county?" I said.

"Yes, sir. You ought, also, to see two other towns on the River Tyne, called NORTH SHIELDS and TYNEMOUTH: they are both large ports.

"When you left Berwick-on-Tweed, you should have gone to see HALIDOWN HILL. There, about 500 years ago, Edward III., the grandson of King Edward I., defeated the Scots in a great battle.

"On the banks of the River Till, which you will observe runs into the Tweed, is a place called FLODDEN FIELD. The Scottish people have made and sung many mournful songs about that spot. There, in the reign of King Henry VIII., the Scotch army met the English; and, although they fought very bravely, they were defeated, and lost their king, JAMES IV."

"There seem to be a great number of castles here," I said.

"Yes, sir. Northumberland is noted for its castles. You can easily understand why there are so many."

"Yes; I suppose it is because of its being so near to Scotland—it is a *border* county."

"And sir, there is another remarkable place which was built because of this."

"You mean," I said, "the ruins of the old Roman wall. I have read why that was built—in English history. Why is the county called Northumberland?"

"If you look, sir, at your map, you will *see* the reason. Here is a large river called the HUMBER, and all the country at the north of it was formerly one kingdom, called "Northumbria,"—when King ALFRED divided England into counties, this one was called "Northumberland." Would you like, sir, to have a game at chess?"

"Thank you," I said; "I will, as soon as I have written my notes for the children—perhaps you will help me." So we wrote the following notes, which you see, dear children, I have written on a separate piece of paper. I have pinned it to the letter.

I am your affectionate friend,
HENRY YOUNG.

W. Papa has not left us the piece of paper. I suppose he does not wish us to read them now.

MY LITTLE BROTHER.

LITTLE brother, darling boy,
You are very dear to me!
I am happy—full of joy,
When your smiling face I see.

How I wish that you could speak,
And could know the words I say!
Pretty stories I would seek,
To amuse you every day:—

All about the honey bees
Flying past us in the sun;
Birds that sing among the trees,
Lambs that in the meadows run.

Shake your rattle—here it is—
Listen to its merry noise;
And, when you are tired of this,
I will bring you other toys.

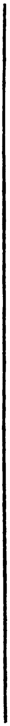
M. L. DUNCAN.

LINES & ANGLES (*Continued*).

P. Well, Ion. It is a fortnight since we had a Drawing lesson. Have you forgotten what you have learned?

Ion. No, papa. It's of no use to learn anything for *a fortnight.* Will you hear how much I can recollect? First: We learned five things to be remembered in making lines. Secondly: We learned the different positions of lines. *Perpendicular, horizontal, oblique,* and *parallel.* Then we learned how to make angles. Then, the different sizes of angles, the small sharp angles, called *acute;* the square, middle-sized angles, called *right angles;* and the large blunt angles, called *obtuse angles;* and then, then Lucy finished the lesson by biting a right angle out of her piece of bread and butter.

P. Very good, Ion. Now, before learning any new names, we will make some drawings with these lines and angles. I'll give you a drawing to copy, which shall contain a perpendicular, horizontal, and oblique line; and, at the same time, it shall have a right angle, an acute, and an obtuse angle in it.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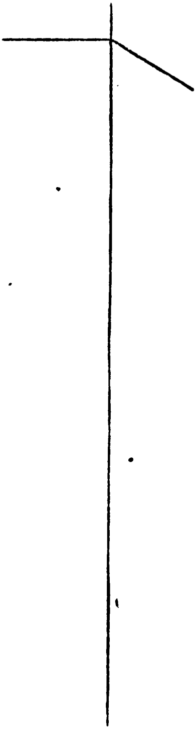
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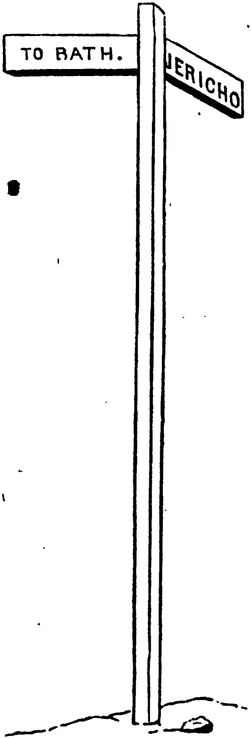


Here is the perpendicular line. I have marked it No. 1. When you draw it, it must be quite upright, and straight.

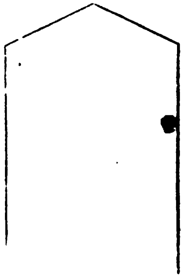
Ion. Yes; not any "shaky" marks in it.

P. You may next copy No. 2

I have joined an horizontal and an oblique line to it.

Ion. And you have formed two right angles, an acute, and an obtuse angle. It looks something like a finger-post, papa; only it does not say where it is pointing too.

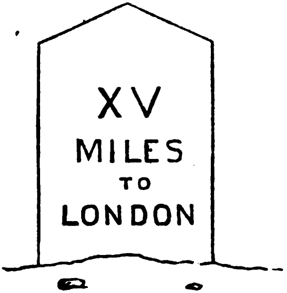
P. Yes; I will make another line of each kind, so as to have some *parallel* lines; and—there it is, you see, it has become a finger-post!



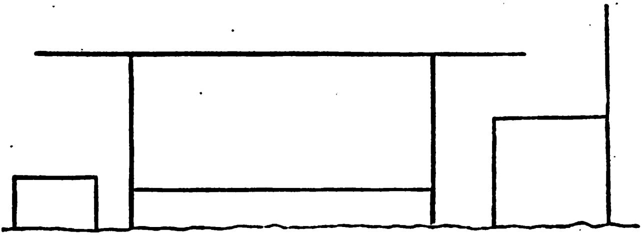
Ion. I have made another drawing, papa, with two perpendicular, and two oblique lines. Here it is.

L. And it has three obtuse angles in it.

This afternoon you may set to work, and copy this drawing; but, not until you have drawn Nos. 1 and 2 correctly; because it will take you a long time—perhaps an hour, to do them carefully.



Ion. Now, if you will let me print on it, and will give me a ground line—there, you see that it has made a mile-stone.



L. And, see what I have made. With only three lines for each I have made a chair, and a stool; and with four lines I have drawn a table. And, they are only perpendicular and horizontal lines.

P. I shall not make drawings of these things for you, but, when you can copy the finger-post and the milestone *properly*, you will be able to make the lines necessary for these objects. You may then go into the kitchen, get a wooden chair, a table, and a stool, and draw from the things themselves.

TRUTH.—John Huss.

Ion. Are we to have another lesson on Truth, papa?

P. Yes, and another after that. I have not yet shown you how *strong* Truth is, nor told you of the good things Truth will do for you. You shall hear to-day how it brought a man into the fire.

L. Oh! But you don't call *that* "a good thing," papa?

P. It does not seem so, but it *must* have been, if it was brought about by Truth. Truth will *only* do good to any one. It may appear to do harm for a time,—but, be sure of this, you will find that it does good, at last.

Do you remember your grey-headed grandfather? How strong an old man he was when he died!—and, how everybody loved him!

Once,—when he was growing up to be a man, he sat down to think. He thought, "I am almost a man, yet I am a very poor lad, and very weak. I shall have to live in this world, perhaps, for many years, with many people who only care for themselves. I know some people who are rich, and strong, but yet they are wicked. If I try to please them, they will help me, and perhaps they will make me feel happy. But, then, I have something within me which is only pleased when I do right; it is very strong, for it can make me feel *very* happy."

W. That was his *conscience*, I know.

P. Then he thought again—"It would be better for me to please my conscience, but I often want to do wrong to please others; and sometimes I do wrong to please myself. I *forget* what I ought to do. So, I do not always feel strong enough to fight against wickedness, or to do what is right. Who will make me strong to do right?"

"I will," said a voice, which seemed to be close to him.

Then, he thought he saw before him a beautiful spirit.

"Ah!" said the spirit, "you may laugh at the strength of wicked men, if you will follow me. Their strength will not last, but the strength of Truth will last for ever. Their strength cannot do much, but Truth is *almighty*.

"Where is Truth?" he cried. "Some people tell me that one thing is Truth,—then others say that something else is the Truth."

"I am Truth," said the spirit. "You may read of me in my Father's book—'I am the way, the *truth*, and the life.' My name is Jesus Christ."

"Ah!" he said, as the spirit seemed to be gone. "No wonder Truth is *almighty*, for the Son of God is Truth. I will follow Him as long as I am in this world, and I know that He will help me. I will read in the Bible of what He did, and will copy him. If I can only do as Jesus Christ did, then I shall please my conscience, and be happy too. So happy shall I be, that nothing can hurt me, for Truth is stronger than all the wickedness we may find in this world."

L. No wonder we loved our grandfather so much. I suppose that he always followed "the Truth."

P. He always tried—for, sometimes it is a rather hard thing to do. When he was afraid that he should do wrong, he prayed, and asked Jesus for some of his spirit; and whenever he was going to say any words or do any actions, he looked at them first with his mind, to see whether they were the Truth.

W. But how did he know?

Ion. Why, his conscience told him, of course. But, papa, did he really see a spirit that day?

P. No: he only seemed to see one; it came from his imagination. Now, I want very much for you to see and feel how powerful truth is. It is "the Truth" which has made the people in this country so great a nation. If you will pay attention, I will give you a history of two great men whom God employed to show this truth to the world.

About five hundred years ago, nearly the great countries in Europe were in darkness. I don't mean that there was darkness in the air or the streets, or that the sun did not shine, but that there was darkness in the minds of men. For when a poor man's mind is ignorant and without truth, we say it is *dark;* but when any one knows the truth, and speaks the truth, and does the truth, then he feels happy, his countenance is bright, and we say that he has *light* within him.

You know that a long time ago our Saviour Jesus Christ came into this world. He brought good news from heaven, to show men how they might be saved, and go up there. He was not only "The Truth," but the way to heaven; and, when he taught men, he gave them new life. So it is no wonder that he was called "The light," for he made men see clearly many things they had never known before.

But, as I told you, four or five hundred years ago, there was not much of this light in Europe. People did not know what Jesus Christ had said, and were like men in darkness. The great light which Jesus had brought, had been made very dim, so that it could hardly be seen.

In every country and city there were men called Priests, who hid the light and covered it over with fables. In these fables they taught about another way to heaven, which had not been taught by Jesus Christ. Listen to some of the things they said!

You know that God only can punish sins. But these priests thought they would help to give the punishment; so they taught the people to punish *themselves*, to whip themselves, to starve themselves, and to do many curious things.

God only can pardon sin. But they told the people that a man called the POPE could pardon them; and they even sold pardons from the Pope, as though a *man* could forgive, instead of God.

JESUS CHRIST is the only sacrifice for sins. But they taught the people to bring large sacrifices of money and other things, in order to get forgiveness.

Besides teaching these foolish things, they did something worse—they shut up God's Word, so that no one could get at the light and see.

It was a sad thing for the people of so many countries to be in darkness, and not to know how much God loved them. Without His Truth they could not be happy; but at last the Truth sprang up again.

In the country of Bohemia was a city called PRAGUE. I cannot say how many streets it had, nor how many houses; but there was a large school there. The school was much larger than any of the houses. Every morning you might have seen many men going there to learn Latin and Logic, and other things, so that they might become Priests. Such a school for men is called an University.

Amongst the men who went there every day was one called JOHN HUSS. I do not know what sort of a look he had, but I dare say he had some good thoughts. I dare say he thought, "I will work hard, and learn all that is good and true, that I may *do* good:" or he might have thought, "I will be a great man, and become a bishop or a cardinal."

But after he had been studying for some years, and every day had been getting more knowledge, the great God showed him that his learning was not truth, and that his labour was of no use! He found out that the Pope could not pardon sins, that he ought not to punish sin, and that no man could get pardon for himself by making sacrifices of money, or by giving himself punishments. For he had seen God's holy Word, and there he had read the glorious truth about our Saviour Jesus Christ. What would he do, then, when he found he had made such a great mistake?

W. Why, I suppose he would go and tell the people that they were all wrong, and put them right again.

P. But the Pope would not let him. If he told the people this truth, they would not let him be a priest, nor could he become a bishop, or a cardinal, or a great man, as he wished to be. He would be driven away from the University, and perhaps be killed. So when he thought, "If I open my mouth, I shall be punished," what *could* he do?

Ion. I don't know, papa. Perhaps he would go and be a doctor, or a lawyer, or something else.

P. We shall see. I find we have been talking about so many things that there is not time to tell you now. We will go on with his history next week.

* * *

WE thank the Lord who gave
The Bible for our guide,
The rule in all religious things
By which we must abide.

How much it praises those
Who would not leave God's way;
For all that earthly rulers did,
Or worldly priests could say.

If rulers utter'd threats,
Apostles thus began,
"Judge ye if we should not obey
Our God far more than man."

The martyrs, when enjoin'd
To "change or die," replied;
"We cannot change, but we can die:"
And so it was, they died.

One is our master, Christ,
To him we stand or fall;
Of his own church the one great Head,
And Lawgiver of all.

Jesus, thou King of saints!
Lord of my conscience be;
Sole ruler of thy kingdom, come,
And guide and govern me.

ORGANIC BODIES.

M. Here are the Stone, the Acorn, and the Chrysalis, again. You know the Mineral from the Animal and Vegetable, because it has never had life—but you have been *told* this.

Suppose that you had never seen these three things before,—how would you tell that the Acorn and the Chrysalis have life?

Ion. I should have to wait a little, mamma—because, I should try them both, to see if they would *grow*.

M. What do you mean by "grow?"

Ion. I mean—become larger.

M. But there are some *Minerals* which become larger. Now "matter" is continually being added to their surface. You must understand, however, that the particles of this matter are exactly like the *matter of the Mineral itself.* The Mineral could not change these new particles to make them like it.

L. Yes, but if we eat anything to make us grow, we *change* it. We eat bread and butter, and change it into flesh.

W. Ah! and we don't grow by having particles of flesh joined on to us, outside—We put the bread and butter *inside* us, and that makes us swell, I suppose—that's what is meant by "growing."

Ion. And isn't it curious that this little Acorn should be able to feed on water, and air, and earth.

Then, from this water, and air, it can make the great, thick, solid trunk of an Oak! How it must *change* its food, to make it into so many different things—into roots, wood, bark, branches, twigs, leaves, blossoms, and fruits.

So, you see, this is the great difference. The Animals and Vegetables do not become larger by having little particles stuck on to them—outside—and another little piece, and another, every day—but, they *grow*, which means—they eat food, and change it to something else.

I don't know how the plants eat *air!* Perhaps they don't feed on that very often—only when they cannot get any water—I think that is what I should do, if I were a plant.

M. Indeed you are mistaken, Ion—you shall hear why, another day. Well,—it would be very easy to tell that the Acorn and Chrysalis are not Minerals—if you saw them growing—but, suppose now, that you might not put the Acorn in the ground, how would you tell then?

W. Ah, I couldn't tell.

M. Stop, Willie, think for a minute! Never say, "I can't tell" until you have *thought* carefully. Your mind will always tell you many things, if you will only set it to work.

Now, *think.* If the Animals have to *eat* their food, and change it in such a wonderful manner, they must not only have life, but something else which you do not find in Minerals—what is it?

W. Really, mamma, I don't think I do know—how *can* I tell?

M. Oh, Willie, don't give up—think again. If a Mineral could be made alive, and then be placed by the side of its food, could it eat it?

W. No, mamma. It would not have anything to eat it with—and there would be no place inside to put it in. Now I see! I could soon tell that the Acorn has life,—because, as it must have food, it must have something to eat it with.

L. Yes, and not only parts in its body, fit for *eating* food, but parts inside for *changing* the food.

M. That is correct—and, although you might not see much of these parts in the Acorn—yet you would know that it *must* have them, for it could not live on its food without them. There are some plants which have not any mouths or roots—yet they have little holes or pores in their skin, and with these, they *absorb* their food.

Again. A Tree gets its food, *Water*, at the roots which are at the bottom;—but, for this food to be changed, so as to make *wood*, it must be carried up to the leaves—at the top.

Ion. Then, I suppose it must have different parts—pipes or something—for the water to be carried through.

M. Yes. This water or sap must be conveyed up to the leaves, and down again. So, the Tree must have parts to get the food—parts to convey the food—and parts to change the food—and, by these parts, you would know at once, without seeing it grow, that it is not a Mineral.

L. What are these parts called, mamma?

M. I will tell you. You must remember that all of these parts have *something to do.* Now, all Animals and Vegetables are made of such little parts—and each very little part in their bodies has some use. These parts are something like *tools*, except that they belong to our bodies, and we do not make them ourselves. So, we do not call them tools, we call them *organs.*

W. Oh, I didn't know that I had organs in me;—that's one way to know that I am an animal.

Now, that will make two differences. **ANIMALS AND VEGETABLES** have life, so they have organs.

MINERALS have no life, so they have no organs.

M. If you will try and remember, I will give you some new words, by which you may easily recollect these points.

Things which have life are called *animate.* Things which have never had life are called *in-animate.*

Again. Everything which has organs is called *organic*—and all things which have not organs are called *in-organic.*

So we will say now, that we may know an Animal or a Vegetable, from a Mineral, because—All Animals are **ANIMATE AND ORGANIC**, whilst Minerals are **INANIMATE AND INORGANIC.**

THE CRUST OF BREAD.

I MUST not throw upon the floor
The crust I cannot eat;
For many little hungry ones
Would think it quite a treat.

For wilful waste makes woeful want,
And I may live to say,
Oh, how I wish I had the bread
That once I threw away!

THE SAXON INVASION.

P. I told you in the last lesson that Britain was inhabited by a people who might have become a fine nation if the Romans had not left them. Let us see why they sent for the Saxons.

You may remember, that in one of Mr. Young's letters, he told you of a large stone wall in Northumberland. He said it was built by the Romans, to keep out the Picts and Scots, who lived in the north country.

Some of these people were as savage as the barbarians in Europe. They watched for the departure of the Romans; and, I have read that they rushed upon the Britons like hungry wolves upon a sheepfold.

The Romans had taught the Britons that the proper way to guard the wall was to place soldiers on it as "sentinels," and to relieve one another by turns; but, instead of paying attention to this, they allowed their guards to remain on the wall for several days and nights. So, when the Scots came, they found them so benumbed with the cold, that they pulled many of them down with hooks, dashed them in pieces, and climbed over the wall, into Britain.

The Britons could not even save themselves by flight; great numbers were killed—their cattle and sheep were stolen—their villages burned — their fields were plundered and laid bare for many miles. Why could not they defend themselves?

W. Because, papa, you said that the strongest young men had been sent to Rome, to fight those dreadful Goths.

L. And, perhaps, because those who remained couldn't agree.

Ion. Or, perhaps, because they had been accustomed to let the Romans fight for them.

P. These were the causes, I dare say, for the Romans once sent an army to help them. But, when this army had gone, the Scots came again, so the Britons begged for help once more. They sent a very humble letter, calling themselves "wretched Britons," and saying, that "the barbarians drove them into the sea, and the sea forced them back to the swords of the barbarians"—so that they could only choose between being drowned or murdered. The Roman general was, however, too busy fighting with the fierce **Attila**, the king of the Huns, and had no soldiers to spare.

Ion. Then, I can see now why they sent to the Saxons — they wanted *their help*.

P. That was the reason. And the Saxons were very glad. They had often thought of the beautiful island of Britain; and, how they could enjoy themselves there. Well, they agreed! They would soon come and help the Britons, and then—they would help themselves.

So, not many days after they had their invitation, three "long ships," containing 1,600 men, came sailing near the coast of England. These men were commanded by two brave chiefs, called **Hengist** and **Horsa**. The British king, **Vortigern**, went out to meet them, and promised that if they would drive away the Scots, he would give them the little island of Thanet — a place on the coast of Kent, near the part which we now call *Margate*.

The Saxons found the Picts and Scots almost in the middle of England, near Lincolnshire. They soon defeated them, and drove them back again. As they passed through the country, however, they noticed how fertile and rich it was, and then, they determined to remain. When they returned to the island of Thanet, they quarrelled with the people of "Cantia," and drove them away. They next quarrelled with *Vortigern*, and killed him. They then took possession of Cantia, and formed a Saxon kingdom, which they called **Kent**. This was *about* the year 460, or 30 years after the time of the Romans.

Now, when the other fierce German tribes, in the cold northern countries, heard of this, they fitted out more "long ships," and came over quickly. Then came other tribes, then more, then more again—ship-load after ship-load; and, for the next hundred years, there were continually fresh arrivals of visitors, who came to destroy, to steal, and to kill.

You shall hear some of their names: **Ella** and his three sons came with a large army; they seized a broad tract of country, and founded *the kingdom of the South Saxons*.

Cerdic and **Kenric** landed with some other German tribes; and, seizing another great piece in the west of England, they founded *the kingdom of the West Saxons*.

A fierce commander, called **Uffa**, came next; he seized the counties of Cambridge, Suffolk, and Norfolk, and formed *the kingdom of the East Angles*.

Some others then seized Essex and Middlesex, and founded *the kingdom of the East Saxons*.

Others fought their way across the country to the middle of Britain, and founded *the kingdom of Mercia*.

And others sailed to the land at the north of the River Humber; and, driving the Britons into the mountains of Scotland, formed *the kingdom of Northumberland*.

W. Then there were *seven kingdoms*, papa; but, did not the Britons try to prevent the Saxons from coming?

P. Yes. During all this time there was the horror of continual fighting. One British prince, named **King Arthur**, opposed them for a long time, and caused dreadful slaughter. So brave was he, that it is said, he once killed more than 400 Saxons with his own hand; and defeated them in twelve great battles.

But, one brave king was not sufficient to drive back so many new tribes. England was now filled with all sorts of Germans. The Saxons were followed by the Angles, Jutes, Danes, Prussians, Rugians, Friezlanders, and many other people with strange names.

Their manner of fighting was, I have read, even worse than that of the Goths and Huns, who destroyed Rome. They were not satisfied with anything but complete and utter *destruction*. They gazed and wondered at the fine cities left by the Romans, and felt thirsty to destroy them. Not only did they kill the Britons, but pulled down towns and villages, palaces and churches, until they fell in ruins on the heads of the murdered inhabitants, and made one immense heap! The few wretched people who could not escape, and were left behind, were brought to a state of humble slavery, and all was miserable desolation.

Thus, they cared nothing for the trade or the civilisation of the Romans. The language and religion of the island were forgotten; and, in the course of 150 years from the time of their coming, the country had gone back to its former state. England was again a land of barbarians who did not know Christ, and her religion was darkness and fables.

W. Poor Britons, papa! They might well be sorry when the Romans left them, for now they were obliged to leave the country themselves. Where did those who escaped go to?

P. Some went to the Highlands of Scotland—others went to Ireland — a great number went to Wales, and some sheltered themselves in Cornwall, which is the very corner of England. A few of them fled, in ships, to a part of France, and called the place Brittany, in remembrance of their poor old country.

Lessons 6 *and* 7. THE SAXONS

(13.) *As soon as the Romans had left Britain, great numbers of the barbarous Scots climbed over the northern wall, rushed down upon the Britons, killed them, and plundered their country.*

(14.) *The Britons, therefore, asked the Romans to help them, but they were engaged in fighting the northern barbarians. They then sent to a tribe of these barbarians, who were called Saxons.*

(15.) *The* SAXONS, *who were very brave and fierce, were glad to come from their cold country to Britain. They drove away the Picts and Scots, and sent for other barbarous tribes, who helped them to drive out the Britons also. So that after* 150 *years' contest, the Island belonged to the Saxons.*

The PERIOD OF THE SAXON INVASION *ended a little before* A.D. 600.

MY MOTHER.

WHO fed me from her gentle breast,
And hush'd me in her arms to rest,
And on my cheek sweet kisses press'd?
My Mother.

When sleep forsook my open eye,
Who was it sung sweet lullaby,
And soothed me that I should not cry?
My Mother.

Who taught my infant heart to pray,
And love God's holy book and day,
And taught me wisdom's pleasant way?
My Mother.

And can I ever cease to be
Affectionate and kind to thee,
Who wast so very kind to me,
My Mother?

Ah, no! the thought I cannot bear;
And if God please my life to spare,
I hope I shall reward thy care,
My Mother.

SALT.

W. Here is the Salt-cellar, mamma. Please let me give papa some Salt for his egg, and we will keep the rest for our lesson.

Salt is like sugar in two things. 1st, You can dissolve it in water, so it is *soluble*. 2ndly, It has little grains, so it is *granulous;* but it has not the same colour—it is *white*.

Ion. And it has a different taste. What do you call the taste of Salt, mamma?

M. We say that its taste is *saline*. This flavour, "saline," is only found in Salt—so, as it belongs to Salt, and not to anything else, you may call it a *peculiar* flavour.

W. Then I will say, "It has a peculiar flavour called saline."

L. Just as Sugar has a peculiar flavour called *sweet*.

Ion. And just as Rhubarb has a peculiar taste called *bitter*.

W. No; I don't think that bitter is a peculiar taste—for bitter Almonds are bitter; and so are Almonds and Myrrh.

Ion. Still the taste, "bitter," is peculiar, because there *is no other taste like it*.

W. Then the taste *sour* is a peculiar taste; for it is not like the taste *bitter*, or *sweet*, or *salt*.

There are many sour things, such as Vinegar, Apples, Gooseberries, and many fruits.

Ion. I should call these tastes, *principal* tastes. So we shall have four principal tastes—Saline, Sweet, Bitter, and Sour. And the taste of *meat* is very different. I wonder what that is called.

M. But you are forgetting the Salt, and you have not found out many of its qualities yet. You know that it has not any life, nor any organs; so, what is it called?

W. A *mineral* substance, mamma.

M. And I must tell you something else about it, which I am not able to *show* you now. If you put it in the fire, or make it very hot, it will melt.

Ion. Then, mamma, we may call it *fusible*. I remembered that word. Now, I will say the qualities we have found. SALT is granulous, soluble, and white. It has a peculiar flavour called saline; it is a mineral, and it is fusible.

M. These are all good qualities in the Salt. Do you think that the Salt would be improved, if any of these qualities were taken away from it?

W. I don't know, mamma. Perhaps it would be better if it were *not soluble;* because, it is very awkward, sometimes, when I put a little Salt on the edge of my plate, it slips down into the gravy, and then I lose it.

M. Well, Willie, let us see if it would be better. When I was a little girl, I saw more than fifty men who were busy salting pieces of beef, and putting them in casks. They cut slits in the pieces of beef and rubbed the salt in between; then they rubbed the Salt all round the outside of the beef. I asked one of the men, "What are you doing that for?" and he showed me that the juice in the beef *dissolved* the grains of Salt. "But, what is the use of its being dissolved?" I said. "Why, miss," said the man, "now that it is dissolved, it soaks through to the middle of the beef, and keeps it from turning bad, you see. This salt beef will be put on board ship, and be taken to hot countries. In such places it would soon be not fit to eat; but the Salt keeps it, *preserves* it. You know what that means, miss.

"And, if you ever go to Yarmouth, in Norfolk—my town, miss—you would see some people salting and *curing* thousands, and thousands, and thousands of bloaters, to prevent them from 'turning bad.' Or, miss, if you'd like to go in a ship to Newfoundland, you might see the fishermen salting very large white fish—cod fish—for people to eat on Ash Wednesday."

W. And other days, if they like, I suppose.

M. "You see, miss, all this liquor in the casks. This is water with Salt *dissolved* in it. We call it 'brine;' and I am going to salt all these large lumps of beef in it."

Since I was a girl, Willie, I have learned that nearly *five hundred thousand tons*—ah, but you cannot think of so much at once, can you? Do you know how much *a pound* of Salt is?

Ion. Yes; Jane bought three pounds for the kitchen last month.

M. Then, think how much three *hundred* pounds must be. But three hundred *tons* would be much more, for one ton alone is as much as 2,240 pounds.

Ion. Oh, mamma!

M. But now try and think of FIVE HUNDRED THOUSAND tons! They contain 1,120,000,000 pounds. Oh, you can never put an idea of so large a quantity into your little heads. Nobody could *imagine* so much Salt, they must *see* it. Yet, I have heard of all this large quantity of Salt being consumed in England in one year. Now, stop and think; suppose that Salt was not soluble—was like *sand?*

W. Why, people wouldn't use it. or they wouldn't use half so much, perhaps. They couldn't salt their meat with it!

M. Then, Willie, you may see what a great difference one little quality makes. As I told you once before, how much we have to thank God for the *qualities* he puts in things!

W. Yes, mamma. And there is something else which must be a very good quality—a capital quality.

M. What quality are you thinking of, Willie?

W. One which I did not notice at first—the quality which *preserves* the meat. What do you call it, because it preserves things?

M. It is called *conservative.*

Ion. Then we may say, mamma, "Because it is soluble and conservative, it is useful to preserve meat." I wonder whether there is any reason for its having the other qualities—for its being white, granulous, saline, and fusible?

M. I dare say there is. We will try and find out the use of these qualities in the next lesson.

THE TEAR OF SYMPATHY.

How lovely shines the liquid pearl,
Which, trickling from the eye,
Pours in a suffering brother's wound
The tear of sympathy!

Then give me, Heaven, the soul to feel,
The hand to mercy prone;
The eye with kindly drops that flows
For sorrows not my own.

ANON.

THE CRUST OF THE EARTH.

LIME *(Continued).*

P. In our last Physical Geography lesson, we learned, you may remember, that part of the Earth's crust is made of Lime.

Ion. You said that about half-a-quarter was lime, papa,—and you said, too, that lime is always found mixed with somthing else—with carbonic acid, or sulphur, or fluoric acid—so that we could never find *pure* lime.

L. And you said, papa, that it formed a part of marble, plaster of Paris, Bath stone, Portland stone, and other things. But, papa, can we not make it pure?

P. Yes. You shall see it done —Let us finish breakfast at once, and walk across the fields to the lime-kiln.

* * * * *

Ion. Is that the place, papa? It looks like a house—Why do they call it "a kiln?"

P. Because it is a baking place —a large oven. We do not call an oven "a kiln" until it has grown as large as a house. Here comes one of the workmen. Hoy! Please, master, will you show my boys the inside of your kiln?

Man. Yes, sir, I will.

Here you see is a large layer of coal and turf burning,—and above it is a layer of chalk.—There is another layer of fire above that—and another layer of chalk—then another—then another—a layer of coal, and a layer of chalk, and so on, all the way to the top. And there, young sir, it will burn until Monday night.

Ion. But what is the use of burning it?

Man. Why, young master—Here, just please to taste this piece which has not been burned.

Ion. I will. It has not much taste, but it sticks to my tongue.

Man. That is because it has carbonic acid and water in it. Now, we shall burn, and keep on burning this chalk until the fire has driven away all the acid and water—and then what do you think is left, master?

W. Only the lime, to be sure. Oh, you don't know, perhaps, that we had a lesson about it last Friday week—then papa told us that chalk is lime and carbonic acid—and that it is called "carbonate of lime."

Man. It is called "carbonate of lime!" I did not know that myself! Now, I'll teach you something that *you* don't know. When the carbonic acid and water have been driven away from the chalk, by the fire—the lime which is left is *pure*, and is called *quick lime.*

W. Thank you. Then I will say "lime is procured from chalk by burning it in a kiln, to drive off the carbonic acid and water—it is then called quick lime." Now, it is my turn to be teacher. If you'll give me a piece of quick lime, I'll show you something. Take it, and find out its qualities.

Man. Qualities! what are those, master? I have never seen them.

W. Why, qualities are things inside. Papa teaches us to find them out by noticing.

Man. I can't understand that—There is nothing inside but lime. It is lime all through.

W. Oh, but since I have been holding it, it has made my hand feel very hot. So there must be *heat* inside. The qualities are outside too—they are—all about it.

Man. I don't think that "all about it" is very good grammar

Perhaps you had better let your papa teach you, and I'll listen—then I shall know.

P. That will be the better way; so sit down on the grass, while I teach. First—What sort of an earth is lime?

Ion. It is white. Please let me taste it. It has a hot, biting, taste. What sort of a taste do you call that?

It isn't sour, nor sweet, nor bitter, nor saline,—it is *biting*, and *hot.*

P. Such a taste is called, an *acrid* taste. There are not many things with an acrid taste.

L. And, papa!—Willie said, without tasting it, that it made his hand *feel* hot.

P. That is because it has a quality in it which will positively burn and destroy things—If you were to bury any dead animal or plant in lime, the lime would soon destroy it by eating it away. I was once near a yard where men tan skins, and make them into leather. I saw a cart full of bullocks' 'hides,' and I asked a man how they could cut off all the hairs of the skins, so as to make nice smooth leather. "We could never *cut* off the hairs properly, sir," he said, "but we put them in this pit, which is full of lime and water. When we take them out again, we find the hairs to be so loose in the skin, that we need not cut them; we only rub the skin with a blunt knife, and they all fall off."

Ion. I think I know the reason of this. The lime *bit* the hairs—that is, burned them.

P. That is nearly right, Ion. The lime burned the *roots* of the hair, and loosened them. Because the lime thus burns and destroys things,—it is called *caustic.*

W. I think I know that word, papa. So is vitriol caustic. I shall never forget that it once burned my hand and pinafore. Then we may say that QUICK LIME is white, acrid, and caustic. I have noticed, too, that it will suck up water—so it is absorbent.

What is the use of an earth which has such bad qualities in it, papa? It would bite the roots of the flowers and destroy them.

P. You do not find *quick lime* in the earth, but chalk. I only told you that it would destroy *dead* substances.

The crust of the earth consists not only of lime, but of dead animals and vegetables. Now, as many animals, and thousands of insects and vegetables die every year—

L. And millions of leaves from the trees—

P. Yes, and the leaves of trees—they would, perhaps, take a long time to decay and change into earth, but—

Ion. The lime destroys them—or makes them get rotten much sooner—and yet it does not destroy the roots of the trees.

P. Oh, no. It is very useful to them. When the rain comes down from the clouds, it sometimes falls on earth which is clayey, and sticky. I dare say you have noticed that it does not sink through such earth, but makes puddles on the surface, so that the roots of the trees do not have much of it.

W. No, I suppose that the sun shines on the puddles, and dries them up.

P. But if you were to mix some lime with the clay?

L. Then the clay would not be so stiff—the lime would loosen it.

W. And the lime is absorbent too,—so, it would help the clay to suck in the water. Has lime any other uses, papa?

P. Yes—many more. You may come with me to see the bricklayer, who is building that wall on the other side of the field. Do you see that he has a heap of quick lime before him, and that he is pouring water on it?

L. The lime is swelling, papa, it seems to smoke; and, I'll feel it. It feels very hot.

P. This heat is caused by the water. The water is being changed from a liquid to a solid state. While it is thus changed, it gives up part of its *caloric*, so it is not now called quick lime, but slack lime. Here is another man mixing some slack lime with sand, and water, and cow's hair.

Ion. Yes, and that makes *mortar*. But, I never knew before, papa, that water had caloric in it.

P. Yes, you will find out one day that *everything* contains caloric —even ice. Let us now sit down, and make the lesson.

Lesson 4. LIME (*continued*).

(5.) *Although lime is never found pure, pure lime may be procured by burning chalk in a kiln, to drive away the carbonic acid and water; it is then called quick lime.*

(6.) *Quick lime is white, acrid, caustic, and absorbent. It is, therefore, useful to cause the animal and vegetable matter in the earth to decay quickly,—and to render clayey and stiff earth, more absorbent. When mixed with sand and water, it forms mortar.*

THE STREAMLET.

I SAW a little streamlet flow
Along a peaceful vale,
A thread of silver, soft and slow,
It wandered down the dale;
Just to do good it seemed to move,
Directed by the hand of love.

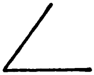
The valley smil'd in living green,
A tree, which near it gave
From noontide heat a friendly screen,
Drank of its limpid wave.
The swallow brush'd it with his wing,
And followed its meandering.

And would that I could thus be found,
While trav'lling life's brief way,
An humble friend to all around
Where'er my footsteps stray;
Like that pure stream with tranquil breast,
Like it, still blessing and still blest.

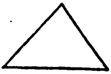
TRIANGLES.

P. Suppose, Ion, that you were drawing on a piece of paper, and wanted to enclose a space with lines. *How many* lines would you want?

Ion. Let me try, papa. I want two lines to make an angle,

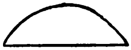


but now I have made it, one side is left open. I must put another line,



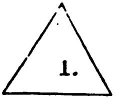
—now, the space is shut up—and there are *three* sides, and three angles.

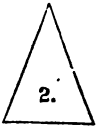
L. I can enclose a space with two lines, papa. See!



P. But the upper one is *curved*, Lucy. I should have reminded you that we are only learning about straight lines—so to enclose a space with straight lines, we must make a figure with *three* sides. This figure, you see, has also three angles, so it is called A Triangle.

Look at these triangles carefully, and tell me if you can see any difference between them.





W. Yes, papa. The one marked No. 2 is larger than the other.

P. How many sides are larger?

L. Two, papa. The bottom line in No. 2 is of the same size as the bottom line of No. 1. Now, I notice something in No. 1.

P. What is it?

L. The sides of it are all of the same size—equal.

P. That is right. Now, I will tell you something. The Latin word for side, is *latus*, so, as this triangle is equal-sided, it is called an Equi-*lateral* Triangle

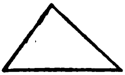
W. But, papa, No. 2 is not equi-lateral, because, only two of its sides are equal—the long ones.

P. And this angle is, therefore, named after two Greek words which mean "equal legs." It is called an *Isosceles* Triangle.

Ion. That is a peculiar name, papa. Will you tell me how to spell it, please, and I will write it down on a piece of paper. Now, I have them both—

Equilateral Triangle, and
Isosceles Triangle.

P. Here is another triangle. How many of its sides are equal?



W. Oh, none, papa! They seem to be all *unequal.* What are we to call this one?

P. A triangle with three unequal sides is called a *Scalene* Triangle.

Ion. That is an uglier name than the other one, but I'll write it down. S-k-a-y- skay, l-e-a-n lean—

P. Oh, stop! It is made of Greek. It is not spelt *so.* You must write it S-c-a-l-e-n-e, Scalene.

Ion. Thank you, papa. Well! How could I think of spelling it so! That is because it is Greek. What queer people those Greeks must have been at their spelling!

P. Now you may make the lesson—then, I will give you a drawing to do.

Lucy. I can make it, papa.

Lesson No. 5.—*A figure with* 3 *sides has* 3 *angles, and is called a* TRIANGLE.

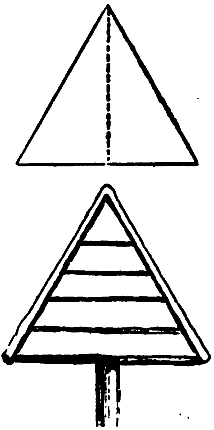
A triangle with 3 *equal sides is called an* EQUILATERAL TRIANGLE.

A triangle with 2 *equal sides is called an* ISOSCELES TRIANGLE.

And, a triangle with no equal sides is called a SCALENE TRIANGLE.

Now, we will begin to make drawings with triangles.

Here is a drawing of the back of our pigeon-house. What shape is it?



Ion. It is an *equilateral triangle.* I never noticed that in our pigeon-house before.

P. And, see what I have done. In order to be quite sure that it is upright, I have made a perpendicular line of dots. It runs, you observe, through the middle. Now, I know that *the line* is upright. How does it show me that the triangle is upright too?

W. Because it runs exactly through the middle of the bottom line,—and then, there is just as large a piece of the triangle on the right side, as there is on the left side.

P. Do not say *the bottom line* of the triangle again—say, *the base* of the triangle, that is the proper name for the bottom line.

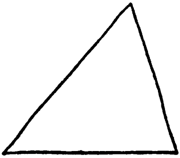
Ion. I will say what the line does. "It crosses the middle of the base, and cuts the triangle in half."

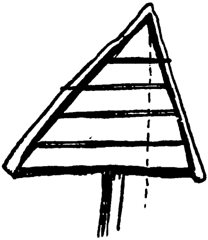
P. Now, who will copy it?

W. I will, papa. Oh, do let me, please. I'll make *such a* BEAUTY!!

L. How fond you are of the words "such a beauty," Willie!

W. Well, it will be a beauty. You shall see. Now then, the *sides* are equal. Yes, and the post is in the middle. It is finished!





P. Then let me look at it, Willie. We shall soon see if it is right. I will draw a perpendicular line from the top through the base. Now, you can see that the triangle is not divided exactly in half.

L. No. The left hand side is three times as large as the right hand side. Poor Willie!

W. Why, what is the matter with the drawing?

Ion. Nothing, only it is rather *ill.* It is falling down; and the lines are in the wrong *direction.* And, then, the triangle,—it is—it is — that terrible Greek word, Scalene!

THE SENSES.

SAY what is it, Eyes, ye see?
Shade and sunshine, flower and tree;
Running waters, swift and clear;
And the harvests of the year.
These we see, and for the sight,
Bless the Giver infinite.

Tell me, Ears, what ye have heard?
Many and many a singing bird;
Winds within the tree-tops going;
Rapid rivers strongly flowing;
Awful thunder; ocean strong,
And the kindly human tongue.
These and more an entrance find
To the chambers of the mind.

Tell me, busy Hands, I pray,
What ye're doing through the day?
Ever working, never still,
We are servants to the will.
Busy hands, whate'er ye do,
Still keep peace and love in view.

TRUTH.

JOHN HUSS *(Continued).*

P. How disappointed John Huss must have felt when he found that he had made a mistake, and had given so much hard labour to learn untruth! Yet he could not help it. JESUS CHRIST was the only Saviour, and he could not teach anything else; for, when he thought of all that Jesus had done for him, he felt that he *must* tell it to others. Why should he fear the Pope? Whoever speaks the truth, obeys GOD, and God will keep him for ever.

And he did preach it to all the people in PRAGUE who would hear him. When the Doctors of the University and the Archbishop heard of it, they tried to stop him, and, at last, declaring that he was *a heretic*, which means a bad man, they turned him out of the University.

W. But why did God allow them to do that?

P. We cannot tell. God allowed all kinds of things to happen to him, but they only *seemed* to be misfortunes, for when his conscience told him, "You are doing right," he felt sure that God still loved him, and was so happy that he could not feel any sorrow about "misfortunes"—his heart had not room for that.

So, with these thoughts of Jesus Christ before him, he could not stop, nor stand still and feel afraid. He tried to preach again in the churches, and again they drove him away. Then he brought his pulpit into the fields and streets. He looked up to God who was looking at him, and thought of *his light*—he looked at the large crowds of people who were standing around him, and thought of their darkness, so he forgot to feel afraid. He only remembered that Truth was *almighty*, and stronger than all men;—and as God, who loved him, made him feel love for these people, he preached the history of Jesus once more, with light in his eyes, with eagerness in his look, with a stout heart, and a loud voice.

Now, although God was pleased, the Pope and the Priests were very angry. They would have killed him, but God would not allow this yet; so they excommunicated him, that is, they declared that he was a wicked man and not fit to belong to the Church.

Ion. That would not hurt him, because it was not true. But, papa, would God ever let him be killed?

P. Yes. If God saw that Huss would give up his life rather than the Truth, God would let him do it. God will let you give up anything you like for Truth.

Suppose, Ion, you meant to give up some great pleasure because you would not tell a lie—just as John Huss gave up the idea of being a great man—you would not *lose* your pleasure.

W. Why not, papa?

P. Because you would *give it up to* GOD; He would take care of it for you. Jesus Christ told us "to lay up treasures" in heaven, and this is one way.

John Huss was now driven out of Prague, and was obliged to live in his own native village. Many people who had seen how earnest he was, followed him there; and then, with the help of another good man called JEROME, he told the people more of God's great love and mercy towards them through Jesus. Soon after this the Archbishop of Prague died, and John Huss returned there.

At last the Pope and Cardinals resolved to destroy him. The Cardinals, Bishops, and Priests met at a place called *Constance*, where they made a "council" to try him. They sent for him, and gave him a letter from SIGISMOND, the Emperor of Germany, which promised that he should not be hurt. So Huss resolved to go, and tell the Truth to the Council.

He was met on his way by crowds of people from the different towns in Germany, but when he reached Constance, the "Council" would not hear him. They did not care for the Emperor's letter, or *safe conduct*, as it was called, but put the old preacher in prison. Here he was kept, in a filthy dungeon which was very dark, with chains about his legs which he could hardly move, and with his arm fastened by a ring to the wall at night. But he would not give up the Truth, even to be set free. He could see God through the prison's darkness.

W. That was "giving up his liberty for Truth,"—I think I could give up that, rather than tell a lie.

P. The next thing he gave up was *his life.* The Duke of Bavaria one day sent for him. He was taken out of prison, led through the streets by the soldiers, and fastened to a stake in the ground. Faggots were then heaped round him, and he was told by the Priests that if he did not give up the Truth now, he would be burned.

L. Oh, papa!

P. He thought they might burn *him* if they liked, but they couldn't burn the Truth. So he let them burn him. The fierce crackling fire soon put an end to his life, but the Truth which he brought out will never end; it has lived ever since, and in time will spread happiness all over the earth.

It always made John Huss happy. It gave him great joy when he found it—joy when he preached it—joy when he was driven from the University—joy when driven from Prague—joy when he was in the dungeon—joy when he was in the fire—joy when, above, he saw Jesus coming to meet him—and it gives him great joy still, when he meets many spirits coming to heaven who would not, perhaps, have heard the truth but for him.

Ion. Then if truth gives so much joy as that, it is worth—ah! *more than one's life!*

OUR Fathers were highminded men
Who firmly kept the faith,
To freedom and to conscience true,
In danger and in death.

Nor should their deeds be e'er forgot,
For noble men were they,
Who struggled hard for sacred rights,
And bravely won the day.

And such as our forefathers were,
May we their children be!
And in our hearts their spirit live,
That baffled tyranny.

Then we'll uphold the cause of Right;
The cause of Mercy, too;
To toil or suffer for the Truth
Is th' noblest thing to do.

HOW WE KNOW AN ANIMAL FROM A PLANT.

M. We have learned how to know Animals and Vegetables from Minerals, to-day we will learn *how to tell an Animal from a Vegetable.* So we will leave the stone in the box, and will only take out the acorn, and the chrysalis.

I think that before we find out the differences between them, we will take some notice of the points in which they are alike.

L. They are alike, mamma,

First,—Because they have life.

Secondly,—Because they have organs.

W. We may say, "*therefore*, they have organs," for, if they have life they must have organs. We learned that in the last lesson.

M. True. And the organs with which they procure their nourishment are called organs of *nutrition.* But, they have other organs. I told you that all things that have life will also have death, and will perish.

Suppose, that all the animals and vegetables which are now growing had no other organs but organs of *nutrition.* They would feed—and grow—and when they had ceased to grow, they would decay and die. And—what then?

W. Oh, but they would make some *new ones* before they died, or else there would be none left; and, I see now, they must have *organs for making new ones.*

M. That is right. Think! How wonderful that the acorn, when grown into a tree, should not only put forth buds and leaves, but actually make new acorns, exactly like itself; and each of these new acorns, when made, has the power of growing and forming a tree.

The butterfly, too, before it dies makes eggs, each of which will form a new butterfly. All kinds of animals and vegetables have this power of producing again; that is, of making young ones exactly like themselves before they die.

You know that the little word "re" placed before another word means *again.* So when the old animals and vegetables produce these young ones, we say that they *re*-produce them; and the organs with which they do this are called *organs of reproduction.*

Ion. And we may say, I suppose, that they *must* have these organs for making others, because they perish themselves.

M. Yes. And why *must* they have organs of nutrition?

Ion. Because they *have life.* If they are to be kept alive, they must be nourished. Of course, both animals and vegetables must have these organs, and that is why they are alike.

Let me repeat it once more.

All Animals and Vegetables are animate, *therefore* they have organs of nutrition.

Animals and Vegetables are perishable, *therefore* they have organs of reproduction.

W. I like to see that. Because they are alike in two things, they are *obliged* to be alike in two other points.

M. There are more points yet in which they are alike, but we will leave them for the present. Let us now see in what they differ.

Tell me. How do you know an animal from a vegetable? Suppose I were to call this chrysalis a vegetable, how would you teach me better? Indeed, I *will* say so. I have an idea that this chrysalis is a vegetable. *It is a vegetable!*

Now, will you prove that it is not?

Ion. Ah! mamma, wait until it is a butterfly, and you shall see it fly about—a vegetable can't do that.

L. And it will *see you;* that is more than a vegetable can do.

W. And I'll tell you something. It would *know* you, and would get out of your way, if you were to come near to it. A vegetable does not know *anything.*

Ion. And it would *feel,* if you were to pinch it.

M. Ah! Then perhaps it *is* an animal, for I see that it has more organs than the vegetable; or, as *I* should say, "it is more highly organised."

But let us consider this matter very carefully and slowly.—I should like to teach you to consider slowly.

There is no doubt, then, that animals have more organs than vegetables. You can tell this because you see them. But if you never had a chance of noticing these organs, you might, by considering, have found out that animals *must* have them.

I told you once that I thought the Great Creator had a reason for every difference we see in his works. Now, when your eyes tell you that the Animals have more organs than Vegetables, would you not like to know *why* they have them?

Ion. I should, mamma.

M. Then, let us think. First, et us notice their *organs of nutrition.* The *plants* have to get food. Where is the mouth of a plant?

L. The root is its mouth; or, it really has hundreds of mouths, because each little fibre in the root sucks up food.

W. I have thought why it has so many mouths, because it is fixed in the ground! If the oak-tree had only one mouth, that mouth would soon suck up all the juice in the place where it was; so, of course, it must make a great many more mouths to go to other parts of the ground. You called these little mouths "rootlets," I remember.

M. That is right. Trees and plants have thousands of mouths, or rootlets; and these organs not only procure the food, but *fix* the plant in the ground. The word "plant" means fixed.

L. But an Animal is not fixed. It can move about from one place to another, and it can carry its mouth to the food; so it only wants *one* mouth.

M. This is true of nearly all animals.

Ion. Then we will say "*most* animals;" so, this is the *first difference.*

1st, VEGETABLES are fixed to the ground, and they have many mouths: but ANIMALS can move from one place to another, so they have only *one* mouth.

M. Now for the next difference. You may find *another* one in their "organs of nutrition." The food of an animal or a vegetable has to become part of its body; to spread all through it, and to mix with every particle. In what state must the food be?—solid or liquid?

L. I should suppose that it must be in a liquid state before it can do that. It must be very *thin.*

W. Well, we do *chew* our food, so that it may not be quite solid.

M. Yes, and it has to be "chewed" more after you have swallowed it. It must be dissolved and be *quite* liquid before it can mix with your blood. What organ have you for *dissolving* your food?

Ion. I don't know, mamma. I'll think,—it goes down my throat.

M. It goes farther than that.

Ion. Yes. Into my *Stomach.*

M. That is the organ. Your stomach receives the food, and makes it liquid. Can you find this organ in vegetables?

L. I should think not, mamma. They do not want a stomach, for they have not to make their food liquid, they live on the juices of the earth,—and water,—and air.

M. That is correct. Now state the *difference.*

Ion. I will say it, mamma. 2ndly, An ANIMAL lives on *solid* food,—so it has an organ called a stomach: but a VEGETABLE lives on *liquid* food, so it has no stomach. Are there any more differences, mamma?

M. Yes. You shall see. When the roots of a plant absorb water from the earth, it is conveyed through little sap vessels, up to the leaves;—and then, coming down again, it hardens, and forms new wood. This juice in the vegetable is called "sap."

Ion. I have heard that word before. And we have seen some sap, too! When we broke the branch of the lilac tree the other day, and peeled off the skin from one of the twigs, it was quite *wet.*

M. Now, when you eat food, it does not form sap, but *blood.* This blood is not merely sent up your body and down again. It is sent through nearly all its different parts, in all directions,—and it flows through little vessels called *veins* and *arteries.* Thus it is always moving—or circulating, as we say; so animals have an organ within them, for the purpose of keeping it in motion. This organ acts very much like a pump. What is it called?

W. I think it is called "*the Heart;*" is that the organ?

M. Yes, it is your heart which circulates the blood—so you may call it "the organ of circulation," if you like.

W. I will repeat the *third difference,* mamma.

3rdly, ANIMALS change their food into blood, which is always being circulated, so they have an organ called the *Heart.*

VEGETABLES have not any heart.

M. There are more differences yet, but we will leave them until next Tuesday, when we will make up the whole lesson.

THE DAISY.

THERE is a flower, a little flower,
With silver crest and golden eye,
That welcomes every changing hour,
And weathers every sky.

The prouder beauties of the field
In gay but quick succession shine;
Race after race their honours yield,
They flourish and decline.

But this small flower, to nature dear,
While moon and stars their courses run,
Wreathes the whole circle of the year,
Companion of the sun.

It smiles upon the lap of May,
To sultry August spreads its charms;
Lights pale October on his way,
And twines December's arms.

THE SAXON HEPTARCHY.

THE ALLODIAL SYSTEM.

P. Where did we stop in our History last week?

Ion. You said, papa, that the Saxons had driven out the Britons, and had divided England into seven kingdoms.

P. These seven kingdoms are called a "Heptarchy." Who can repeat their names?

L. I can, papa. 1. *Northumberland.* 2. *East Saxons.* 3. *East Angles.* 4. *Wessex.* 5. *Sussex.* 6. *Mercia.* 7. *Kent.* And all these were formed in 150 years. When did the Saxons first come, papa?

P. About 20 years after the departure of the Romans.

L. That is, in the year 450, and then 150 years more make 600; so that the seven kingdoms were all made and finished about the year 600.

P. A little *before* that time. But do not say "made and finished," say *established.* You may call this period "*the period of the Saxon Invasion.*"

W. So we will say, "The Roman period ended A.D. 430."

"The period of the Saxon Invasion ended A.D. 600."

P. Now you shall hear of *the period of the Saxon Heptarchy.*—Listen.

I told you that the Saxons and other barbarians were constantly wandering about, for they were fond of conquering new countries. All at once they would dislike the place where they were living, and would say, "Oh, we'll go and seek for a better land, and conquer it." And this is the way they would do it.

One or two strong chiefs would meet together, and begin to grumble. Then they would ask one another, "Do you want to leave?"

W. They should have said "emigrate"—"Do you want to emigrate?"

P. And if they all said "Yes," then they would arrange about it. They would get some money to buy a ship, or perhaps *two*, and would "call a meeting." All round about, for many miles, they would send messages to the other chiefs, saying, "Come to such a place, at such a day, and bring your people with you, for we are going to hold a 'Comitatus.'"

Then they would meet on a large open place, where there was plenty of room; and there you would see a thick crowd of wild, half-naked fellows, waiting to hear what was to be said. One of the grumbling chiefs who had determined to migrate would stand up in the middle of the company, and make a great speech. He would flourish his spear and shield, as though he were very angry; and if he intended to go to Britain, he would say, "I know of a country much better than this one. There is an Island—over there! (pointing to Britain)—which, I have heard, is a most remarkable spot." Then he would speak of the green fields there, the rich lands, and say many things to make them think it was a comfortable place; and would tell them that the Britons could be easily conquered. Then he would add that he was going himself, with his friends on the left, and that they had provided ships.

He would further explain, perhaps, that when those who chose to go should have conquered the country, it was to be divided between them—each man to have a piece, and those who were bravest were to have the largest shares.

Then he would sit down; and all the men who wanted to go with him would rise up and say so.

These men would have to agree that, during the expedition, they would follow these commanders, and find their own arms—with provisions, perhaps. Every one was bound to keep his promise; for I have read in Cæsar's book, that "Those who went back from their engagement were looked upon as deserters; and lost all credit for the time to come." Such a meeting of barbarians was called a "Comitatus."

So, when the Saxons conquered Britain, those men who were not killed in battle divided the land between them. The common men were called "ceorls" or "churls," and each *churl* had his lot of ground, or "allotment," marked out for him.

In the middle of his allotment, the *churl* made his cottage with rough branches of trees, clay, and straw. It had no windows, but a hole for the light to come in; and another for the smoke to go out. The churls took their prisoners—the conquered Britons—and made them work on their farms as servants. They were called "Thralls," which means *slaves*, for they had to do very hard work—to plough and dig; to attend to the cows, and pigs, and poultry.

Thus the Saxons found Britain to be a very comfortable place,—plenty of mutton, with fine fowls, eggs, butter, milk, and honey. For bread they would make barley cakes, which they baked on the hearth. When they wanted clothes, they would make a coarse cloth, like baize, from the sheep's wool; and if they wanted money, they'd "go to market" and sell some of their good things.

Ion. Then, papa, they were husbandmen, living in an agricultural state, which must have been very pleasant, if things always went on so.

P. Yes. You may see by this, that the Saxons had a system in making new kingdoms, different from that of the Romans. For, if you notice, each man was *independent*—living on his own property. There were noblemen, but only those were made noblemen who were thought to be the best men, or the bravest.

The *Kings* of these seven kingdoms had to depend very much upon themselves. Each king got most of his money by attending to his own land. He could not *make* the people pay taxes. If there should be a war, nearly every man would go to fight for himself and his neighbour; so they learned not only to take care of their own land, but of their own country.

You will find, as we go on with our history, that there are many different ways, or "systems," of forming a kingdom. On this system, every man, as I said, had his own lot or *allotment.* Such a plan of dividing the country was called "the Allodial System."

Ion. Was it a good system, papa?

P. Perhaps it was the best for people who were living in such a simple state. I have read much of how they used to enjoy themselves—of their merry-makings and their feastings; but there was one thing wanting! Their happiness was all on this earth. They did not know anything of the happiness which lasts for ever, for they had not yet heard of Jesus Christ.

I meant to have told you how God first sent them the knowledge of his Son, but we must now wait until next Wednesday.

SALT *(Continued).*

M. We were saying, last Thursday, how useful salt is, because it is *conservative;* but there are other conservative substances in this world.

W. Yes, *sugar* is conservative. I wish you would preserve some more gooseberries, mamma; or make some more red-currant jam!

L. And *vinegar* is conservative, for preserving onions, and making pickles. And is not pepper conservative, and spice?

Ion. Oh, yes, *spice* is. I have read in the Bible about the Israelites preserving the body of Joseph—embalming it, it was called—and they embalmed the kings of Egypt, made them into mummies for the British Museum.

L. I don't think that the kings had any particular wish for their bodies to be in the Museum. But, mamma, you said last Thursday, that when God put the other qualities in salt—the qualities white, granulous, fusible, and saline—that He thought about it, and meant each quality to have *some use.* Now, what is the use of its being so beautiful and white? We don't make *paint* of it.

M. Well, Lucy, I am not sure that I can find you the reason for its whiteness, except that we like to see nice white salt on our plates; we can tell sooner whether it is dirty or not. Let us look for a reason. Do you remember that you once went with me to a large manufactory, and that we looked through one of the windows of the bleaching room?

L. Yes, mamma; and I remember the long rows of stockings which were hanging up to be bleached. You said that bleaching meant making them white; and that the chloride of lime which was spreading all over the room, would whiten them.

M. That chloride of lime is made partly from a gas called *chlorine,* and the gas chlorine is procured from the salt. It was this chlorine gas in the lime which took away all the colour from the stockings, and made them appear white. So you see that this white salt is useful for bleaching because it contains chlorine. I don't know whether it is any better for being white.

W. But can you not be *sure,* mamma?

M. No, Willie, I really do not know everything. I have not learned bleaching yet.

W. Oh, mamma, I am almost sure that *that* is the reason why the salt was made white. So I shall run the risk, and will say, "Because it is white, it is used for bleaching."

M. I think you had better not say so, because, if you should be wrong you will be laughed at. Remember, it was the *chlorine* in the lime which produced the whiteness in the stockings.

Ion. I know that the quality "soluble" makes the salt useful, but what is the use of its being *fusible?*

M. See how hard and smooth and bright this breakfast cup is. The glaze which is outside it is made with melted salt; and so is the glaze on the earthenware down stairs. Salt is also used in making glass.

W. Perhaps it could not be used for that, nor for making glass either, if it were not white.

Ion. I wonder why it should be granulous?

M. I cannot exactly tell. It is very useful *as a manure*. Men can easily chop it up, and break it into little grains, so that it sinks into the earth. There it preserves some plants from disease.

W. It is a good thing that it is *saline*, mamma, because it gives a nice taste to meat and other things. I should not like to live on potatoes without salt.

M. Not only you, Willie, but all mankind and animals are made to like the taste of salt, for they could not live very well without it.

I have read of two captains who went on a journey up the River Missouri (you have seen the great picture of the Missouri painted by Banvard). When these captains were looking for a spot where they might pass the winter, they thought very much about one thing, "Where shall we get our salt?" So they fixed on a place about fifteen miles from the sea, and every now and then, in the course of the winter, they were obliged to travel that long distance to get a fresh supply of salt.

Although it was cold, damp, and rainy weather, they would travel through thick woods, and deep morasses, until they reached the sea, when they boiled the water in their salt pans, and made salt.

In Africa many of the poor have to travel, perhaps, 100 miles to procure it, and only the rich people can procure as much as they want. A man called MUNGO PARK, who travelled there, once saw a little African child sucking a piece of salt, and enjoying it as though it were sugar. Mr. Park says, that "the long use of *vegetable* food creates such a painful longing for salt, that no words can describe it."

L. But why does vegetable food make people want salt, mamma?

M. I must tell you. Salt is so necessary for man, that it is found not only in the sea and earth, but in some of the food which he eats. There is salt in flesh, in milk, in this egg, and in nearly all animal food;—but, we do *not find it in vegetables*. *The baker* knows this, and because flour is a vegetable substance, he mixes salt with the bread. But, although vegetables do not contain salt, I told you, in one of our former lessons, that they have *another* conservative substance in them—not salt, but

L. *Sugar*, mamma. You said that the sugar made them nutritious.

M. Let me tell you something to show you that vegetables have not much salt.—All animals that feed and grass on herbage continually require salt. *Tame* animals, such as sheep and cows, cannot procure it themselves, and the farmers are obliged to mix it with their "fodder." I told you once, that great numbers of cattle are fed and fattened on the eastern shores of England—in Yorkshire, Lancashire, Norfolk, and Essex.

W. I think I know why that is, now, mamma. It is because the water from the sea overflows those parts, and makes *marshes* of them.

M. Yes. Some parts are called "Salt-marshes." Salt is provided for cattle, in all parts of the world. In North America—in the woods—you may find small springs of salt water. They are called "Licks." The wild animals from the great "Prairies" will journey, for many days, to these licks, that they may drink the water, or even lick the salt earth if the spring should be dry—even the birds, and game come. You may also see the sly hunter there, hiding, and watching behind the trees for the animals which he is sure will soon come, and many a fine buffalo, or bird, is shot at these licks.

Ion. But, mamma, can you tell us *why* men and animals require so much salt with their food.

M. Yes, I think I can. But, I have yet to tell you of some of the wonderful places from which it is procured; so, I think we will make another lesson, and I will tell you then.

W. Shall we have *another* lesson? Thank you, mamma. That will make *three* lessons on salt. Well, it *is* conservative, so, it will be sure to keep.

M. Then, take care, sir, that it keeps in your mind—all the ideas that I have given you.

I WOULD I were a little bird,
 To fly so far and high,
And sail along the golden clouds,
 And through the azure sky.

I'd be the first to see the sun
 Up from the ocean spring;
And ere it touch'd the glittering spire,
 His ray should gild my wing.

Above the hills I'd watch him still,
 Far down the crimson west;
And sing to him my evening song,
 Ere yet I sought my rest.

And many a land I then should see,
 As hill and plain I cross'd:
Nor fear, through all the pathless sky,
 That I should e'er be lost.

Now, if I climb our highest hill,
 How little can I see!
Oh, if I had but wings, mamma,
 How happy should I be!

Wings cannot soar *above* the sky,
 As thou in thought can'st do;
Nor can the veiling clouds confine
 Thy mental eye's keen view.

Not to the *sun* dost thou chant forth
 Thy simple evening hymn;
Thou praisest Him, before whose smile
 The noonday's sun grows dim.

To other lands the bird may fly,
 His pinion cuts the air;
Ere yet he rests his wing, thou art,
 In thought, before him there.

A lovelier clime the bird may seek,
 With summer go and come—
Beyond the earth awaits for thee,
 A bright eternal home.

JUV. MISCELLANY.

THE TRAVELLER THROUGH ENGLAND.

P. Here are the notes which came with Mr. Young's last letter.

(10.) *There is a Castle at* ALNWICK, *where the Duke of Northumberland lives. It is the finest in England, except* WINDSOR CASTLE. *As Northumberland is a border county, there are many ruins of old castles, built in the times of the wars with the Scots. There is also the ruin of an old wall built by the Romans.*

(11.) HALIDOWN HILL *is famous for a great battle which was fought with the Scots, in the reign of Edward III. Another battle was fought at* FLODDEN FIELD *in the reign of Henry VIII.*

(12.) *The capital of Northumberland is* NEWCASTLE *on the* TYNE. *It has a large trade in coals. The mines in this neighbourhood supply the people of London with coal. Newcastle also has Glass and Iron works. There are two other large towns, called* TYNEMOUTH *and* NORTH SHIELDS.

(13.) *The soil of Northumberland is generally barren, on account of the north-east winds;—but, in the valleys between the* CHEVIOT HILLS, *there are green fertile places, where large flocks of sheep feed. Although there are few vegetables, there are many minerals, such as coal, iron, and lead.*

P. We will not, I think, read Mr. Young's letter on Cumberland to-day. I have something else for you to do. As you will have to learn about forty different counties, and many places and names, I am afraid that you will be very likely to forget some of them.

W. I shall, I am sure, papa. It is *very easy* to forget.

P. Then, I think, that before you learn any more, we had better find out the best way to *remember*.

W. What part of myself do I use to remember with, papa?

Ion. Why, your *memory*, to be sure. That is our minds' cupboard, where we put away all our thoughts as fast as we get them.

L. And *keep* them there, until we want to use them.

P. But when you put them away carelessly, or in a hurry—then, they sometimes fall out again, and you can't find them. That is called "forgetting."

Now, if you are anxious that none of the ideas which you have *collected*, should be lost, you must learn to store them up in an orderly manner.

W. How shall we do that, papa?

P. I will teach you. To-day we will *re*-collect all Mr. Young's facts about Northumberland; and then we will re-arrange them. Let me hear you count up some of these facts.

Ion. I will collect them, papa. He has told us about Northumberland:—(1) its shape, (2) its position, (3) the River Tweed, (4) Berwick, (5) the Holy Island, (6) the Farne Isles, (7) the rocky coast, (8) the boundaries, (9) its name, (10) the number of castles, (11) the River Tyne, (12) the capital, (13) the coal mines, (14) Flodden Field, (15) Halidown Hill, (16) the Cheviot Hills, (17) the Roman Wall, (18) Bamborough Castle, (19) Alnwick Castle, (20) Norham Castle, (21) Coquet Island. There's a "jumble" of facts for you, papa!

P. Never mind, if you will pay attention, we may easily learn to arrange them. We will put them in good order.

If you wanted, before beginning the history, to form an idea of the county in your mind, what would you like to know first?

W. I should like to know its size, or its shape. That is the way I remember a *man!*—by seeing how big he is, and by seeing the shape of his face.

L. Then, I should like to know, next, the *place* of the county—where it is. What should I have to notice to do that?

Ion. Why, the *places all round it*—The boundaries. So if we were to write the lesson, we should put down, 1st, the shape, 2ndly, the boundaries, and—what next?

P. I will tell you. Just as Willie remembers a man, by looking at his face—his natural features—so, you would look at the natural features of the county, the Mountains, the Rocks, the Fields, the dry soil, the fertile soil, the Vegetables which grow on *it*, the Animals which feed on *them*, and, the Rivers.

The *Rivers* are very important, so I would keep their history in a separate paragraph.

L. What name should we give, papa, to the history of the county's natural features?

P. Most of these features are seen in the *soil* of the county—the "ground," as you would call it—so we would give to that division of the history the name "soil."

W. So that the 3rd paragraph would be *the Soil*—4thly, *the Rivers*. And then you may remember a man by the *things upon him*—his coat, or waistcoat, or handkerchief, or spectacles. But, they are not *natural* features, they are artificial.

P. So every county has "*things upon him*" which are worth noticing. These things have been made by different men, and, like a man's dress, they are artificial features. Tell me some!

Ion. The castles, papa, are artificial features—the Roman Wall; places where battles have been fought; old buildings; and *new* buildings, too. What should we call that part of the description?

P. These things certainly do not grow out of the soil. Most of them are, however, found on the surface of the county. So, in making an account of them, you may call it the history of the *surface.*

There are other places which men have made on the surface. But, as they are very large and important, their history should form a separate paragraph.

W. You mean the towns, papa, and the capital. Then there would be *six* paragraphs.

P. And you might, lastly, give the history of the county's name.

Ion. That would make seven different parts. I will repeat them, papa—

1. *The shape of the county.* 2. *The boundaries.* 3. *The soil.* 4. *The rivers.* 5. *The surface.* 6. *The capital and towns.* 7. *The name.*

P. Now you may sit down and look over the twenty-one ideas on Northumberland, and see if you cannot arrange them under these seven heads. Then I will make them into a lesson for you.

L. We will soon do it, papa.

NORTHUMBERLAND.

Shape.—Triangle.

Boundaries.—Scotland—Durham—Northern Ocean, and Cumberland.

Soil.—Rocky Coast—Holy Island—Farne Isles—Coal Mines—Many Minerals and few Vegetables—Cheviot Hills.

Rivers.—Tweed—Tyne.

Surface.—Norham Castle—Bamborough Castle — Alnwick Castle — Many other Castles, and Roman Wall, because a "Border County" — Halidown Hill—Flodden Field.

Towns.—Capital, Newcastle—Coals, Glass, and Iron Works—Tynemouth, and North Shields—Berwick, Pickled Salmon, and Eggs; Independent Town.

Name.—Because at the north of the River Humber.

W. There, papa. We have been nearly three-quarters of an hour doing that.

P. That is very good. Now that your ideas are *arranged* under these six paragraphs, it will be easy to form the sentences.

So we will make it into a complete lesson, once more.

NORTHUMBERLAND.

1. **Northumberland** *has the shape of a triangle.*

2. *It is bounded on the north by Scotland; on the south by Durham; on the east by the Northern Ocean; and on the west by Cumberland.*

3. *The coast is very rocky and dangerous, so that there are not any "harbours" worth mentioning. Some of the rocks form little Islands in the sea; such as* Holy Island, *where St. Cuthbert lived; the* Farne Islands, *noted for Eider ducks; and* Coquet Isle, *once noted for its rabbits.*

On account of the northern winds, the soil of this country is not fertile, except in the valleys between the Cheviot hills, which afford pasture-land for sheep; under the earth, however, there are very large mines of coal and iron; so that, although there are few vegetables, there are many minerals.

4. *The principal rivers are the Tweed at the north, and the Tyne at the south of the country.*

5. Norham Castle, *on the river Tweed;* Bamborough Castle, *on the coast; and* Alnwick Castle, *are worthy of notice. Northumberland being a border county, we find the ruins of an old Roman wall, and of many ancient castles, built in the times of the wars with the Scots. Two of the great battles between England and Scotland were fought at* Flodden Field *and* Halidown Hill.

6. *The capital is* Newcastle, *on the river Tyne, famous for its coals, iron, and glass. The other large towns are* Tynemouth, *and* North Shields, *two ports on the Tyne, and* Berwick *on the Tweed, an "independent" town, famous for its trade in pickled salmon and eggs.*

7. *Northumberland is so called because it is at the north of the Humber.*

SPRING.

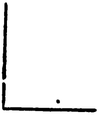
Spring is coming, spring is coming—
Hark, the little bee is humming,
See, the lark is soaring high
In the blue and sunny sky.

Little children, look around ye,
Green and flowery fields surround ye,
Every running stream is bright,
And the orchard trees are white.

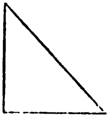
Turn your eyes to earth and heaven,
God for us the spring has given;
Little children, gladly sing
Praise to Him who made the spring.

TRIANGLES (*Continued*).

P. Before I give you a drawing to copy to-day, you shall see a new triangle. Here is an angle.



Ion. That is a right angle, papa.
P. Now I will make it a triangle.



W. I should call that a right-angled triangle. That would be better than giving it a Greek name.

P. That *is* its name!

Ion. And, a very good thing too that it *has* a different name. I have hard work to keep the names of the others in my mind. I will repeat them again.

Triangles, with all their sides equal, are called *Equilateral Triangles.*

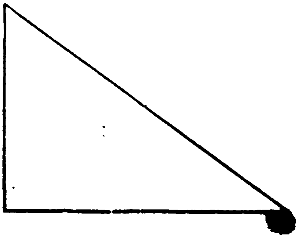
With two sides equal, they are called *Isosceles Triangles.*

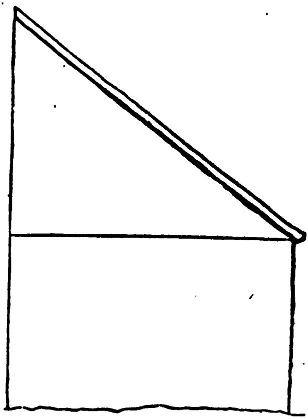
With no sides equal, they are called *S[illegible]lene Triangles;* and,

A triangle, with a right angle in it, is called a *Right-angled Triangle.*

P. I will to-day give you some right-angled triangles to draw, and when you can do them properly, you shall make some drawings from them.

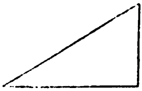
The first drawing is a triangle. In the second drawing I have added two perpendicular lines. Then a ground line, and a parallel line for a "roof."



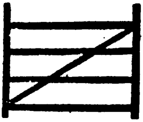


Ion. And so, papa, it has grown into a shed!

P. Here is another right-angled triangle.



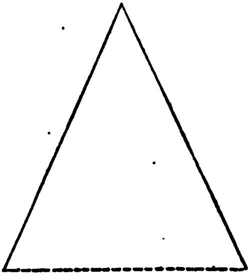
Now I will join some perpendicular and parallel lines to it.



P. When you can draw this, here is an isosceles triangle to copy.

Ion. Why have you drawn its base with dots, papa?

P. Because in the drawing which I am going to make, this part of the triangle will not be required.



Now I will make the drawing. There is the shed, the gate.

W. Only you have put three palings between them.

P. I have drawn the isosceles triangle in the distance, and now you have a picture something like one of the little drawings I made for you in your first week's lessons.

P. Before you begin to draw, point out to me again the two right-angled triangles, and the isosceles triangle.

Do not forget, in drawing it, to make a light line through the middle of the isosceles triangle, to see if it is correct. And the other lines, if they are not quite perpendicular, and quite horizontal, will be wrong in their *direction.*

L. And the lines of the isosceles triangle must be very light lines, or else they will be wrong in *shade.*

W. And the house will not seem to be in the distance.

L. We are going to draw it this afternoon, papa. Which part shall we begin first?

P. I should advise you to draw, at first, with *very light lines,* the right-angled triangle in the shed. Secondly, I would make the ground line at the proper distance from it. Thirdly, I would join it to the ground line by the two perpendicular lines which form the sides of the shed. I would then, fourthly, draw the gate at the proper distance from it, and would compare its height with the height of the shed. How high is it?

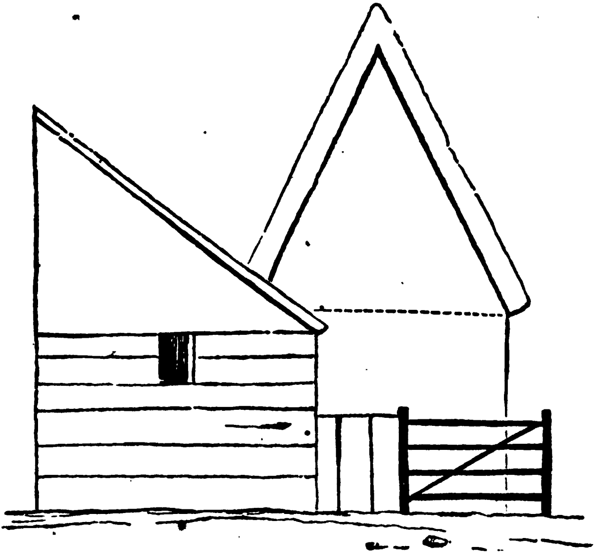
L. Rather more than half as high, papa.

P. When I had thus drawn the gate and the palings *in light lines,* I would then, fifthly, draw the isosceles triangle, and would make the parallel lines outside it, for the roof of the house.

Ion. But why, papa, are we to draw all this with light lines?

W. *I* can tell;—because, if you should make a mistake, you could then rub it out easily.

P. That is the reason. You cannot rub out dark lines easily. When you have drawn the principal parts with light lines, and feel sure that they are correct, you may make the dark lines on them without being afraid of making a mistake.



OLD GRANDFATHER.

THOUGH grandfather has long been blind,
And his few locks are grey;
He loves to feel the summer wind
Round his pale temples play.

We'll lead him to some quiet place,
Some unfrequented nook,
Where winds breathe soft, and wild flowers grace
The borders of the brook.

There he shall sit as in a dream,
Though nought he can behold,
Till the brook's murmur it shall seem
The voice of friends of old.

PLEASANT PAGES

FOR THE

9th Week. MONDAY. Moral Lesson.

TRUTH.—Martin Luther.

P. We learned the *value* of Truth, last week—

W. Yes, it is worth more than a man's life!

P. Then to-day we will talk about the *Power of Truth.* So hear about Martin Luther.

John Huss died, and the Pope went on with his wickedness.

He told the people more untruth, and taught it to the princes and kings of Europe. Instead of gathering up treasures for heaven—he gathered up gold. Instead of being poor like him who had not where to lay his head—he lived in a palace, dressed in splendid robes, eating and drinking very much, and spending much money.

The love which some of these Popes had for money led them to commit a great sin. In order to get riches from the people, they gave them permission to do wrong!

They sent priests through the cities of Europe, who opened their shops in the market-places; and,—telling the people that they might buy pardon with silver and gold,—they sold them pieces of paper with pardons, called "Indulgences."

But, not all people were so blind as to believe the Pope. By the darkness of these wicked deeds, they saw the light of the Truth which John Huss had died for. Thousands of people began to learn the Truth in secret.

At last, God raised up another man as brave as John Huss. He found out that Truth is a part of the Almighty, and *must* be stronger than man. His name was Martin Luther. He was only a poor monk, so no one thought he was worthy of notice. But, little by little, he had learned God's word; and, now he saw that not the Pope but Jesus Christ was the way to heaven.

So, like John Huss, as soon as he knew the Truth he taught it. He preached the true Gospel everywhere. He preached against the foolishness of the Pope—against his wicked "indulgences;" and he printed (for people had learned to print then) tracts, and books, and gave them to men to read.

Very soon he made the covetous and wicked sellers of "indulgences" to be laughed at, and frightened many away from the cities.

When some learned men from the Pope met him to make disputes, he showed them that *learning without "the Truth" is foolishness;* and so confounded them, that they ran back to their homes.

Then Luther gathered many strong friends around him. There were nobles and knights, princes and learned doctors, who had begun to feel that the truth must conquer soon. So, at last, when the Pope noticed this he woke up from his sleep, rose from his throne, and, thundering forth his anger against Luther, determined to crush him at once.

Now hear what happened.

In a house in Germany there sat several great men. There was Martin Luther with his bold, determined look, holding in his hand a large paper which he was reading to his friends. Near him sat a younger man, whose name was MELANCTHON. Near Melancthon was sitting the Secretary to Prince Frederick, named SPALATIN. There were also knights and learned doctors, all of whom were listening to Luther, while he read to them this paper:—

> CHARLES, *by the grace of God elected Roman Emperor, always Augustus, &c., &c.*
>
> Honourable, dear, and pious!
>
> We and the States of the Holy Empire, having resolved to make an inquest touching the doctrine and the books which you have published for some time past, have given you our safe conduct, and that of the Empire subjoined. Our desire is that you immediately prepare for this journey, in order that, in the space of twenty-one days, you be here certainly, and without fail.
>
> Have no apprehension either of injustice or violence, we expect that you will answer to our call.
>
> Given at our imperial city of WORMS, the sixth day of March; in the year of our Lord, 1521, and in the second of our reign. CHARLES.

And, then, he read to them the "safe conduct," which you will understand was a promise that no one should hurt him.

Ion. I wonder who "Charles" was; and what he wanted to make inquiries *for!*

P. I will tell you. Charles V. was the Emperor of Germany. The Pope and the Cardinals had been thinking of the best way to get Luther into their hands—so, they had persuaded the Emperor to call a meeting, or "a Diet," as they called it, of the German princes, at *Worms*. There they wished to try Luther, and to condemn him to be burned.

It was the first diet in the reign of Charles V. Never before had so many princes met together.

So, when Luther read this letter from the Emperor to his friends, Melancthon, Spalatin, and others, what would they say?

L. Why, perhaps they would say, "Stop at home.—Don't go." They would say, "What is the use of a safe conduct? When SIGISMUND gave John Huss a safe conduct, he was burned!"

P. They *did* say so. They trembled lest Luther should be killed; and, as he happened to be very unwell, they said he had better wait.

But Luther, who knew that the God of Truth would go with him, had no fear. He said, that if he could not walk he could be carried — and, although all men were troubled to think of what would become of him,—Luther, with the truth in his heart, was calm.

He set out for Worms, travelling through roads crowded with people who had come out to see him. On his way, when he stopped from illness, he preached in spite of the Pope, and the people listened. He went on again, and the crowd still followed to see the man who could go to be killed. Ah! they cried, there are so many cardinals and bishops at Worms, they will burn your body to ashes like that of John Huss! But still he went on.

At last he reached Worms; and, getting by force through the crowd, who moved to and fro' like the waves of a troubled sea, he was brought into the hall, before the great assembly.

If you could have gone in with him, you would have seen a fine sight. At one end of the hall, dressed perhaps in splendid robes, sat kings, and princes. There sat CHARLES V., the emperor of the old and new world,—his brother, the Arch-duke Ferdinand,—six electors, — twenty-four dukes, —

eight margraves,—thirty archbishops or bishops,—seven ambassadors from kings,—besides deputies from towns, counts, barons, and all kinds of nobles—in all, two hundred and four personages.

At the other end—dressed in the plain black frock of a monk—stood one poor man—Friar Martin.

When he saw the faces of these great men—he began to think to himself, "How shall I speak?"—but his conscience whispered, "Why should you feel afraid? You have not done anything wrong!"

Soon the noise of the crowd outside ceased, and there was a solemn stillness through the hall.

A man called a Chancellor then stood up, and cried out—"Martin Luther! His sacred Majesty has summoned you before his throne to answer these two questions—

"1st, Were these books composed by you?

"2ndly, Do you mean to *retract* these books and their contents?"

Now, "retract" means *to draw back again:* and if Luther were to *take back* the words about Jesus Christ in these books, and were to say that they were not true, then all his labour would at once be lost.

When the titles of the books were read, Luther said *directly* that he had written them; but the second question he had a day to consider.

W. So that he might "weigh his words," I suppose.

P. Yes; and because he might have made some mistakes in them; but he found that they were true. The next day came, and again he stood before the assembly.

He had to give them an answer they would not like. He had to say something to the kings which would fill some of them with rage; and when he saw hundreds of eyes looking upon him, watching his mouth, and waiting for his words—then, he trembled once more. "Ah!" whispered his fears to him, "see how many they are, and how strong!" "It is *very easy* to say, 'Yes'—so, give up the Truth, and they will love you—you may become an archbishop!" "You are but a poor monk, and if you dare to say it, they will *burn* you!"—"Look at them all, your life is in their hands!"

But, No!—His fears stopped. Once more he looked up to the God of Truth, who was *near* him. Then, the people seemed very far off; and with little fear and a loud voice, he gave his answer—HERE I AM, GOD HELP ME, I NEITHER CAN NOR WILL RETRACT ANYTHING.

W. Well done, Luther!

P. Ah, but think what made him able to do it! It was because he felt that he was *before God.* Now learn this dear children, that as long as you live you are before God too! At all times if you speak the truth, no *real* harm will happen to you. If you can say to yourself, "I am not doing wrong"—then, you will not feel afraid.

Ion. But did they not kill Martin Luther?

P. No. The assembly were amazed. The Princes could hardly hide their admiration. Many of them felt that God was with him,—and that Friar Martin was the greatest man in the room.

With that word of Truth, he conquered the grandeur of kings. He shook the Pope on his throne, so that he was despised by thousands.

Then, the Truth which John Huss had preached, the seed which he had sown, began to grow mightily;—and, it is now, under God's blessing, working out the salvation of the world.

HOW WE KNOW AN ANIMAL FROM A VEGETABLE.

(Continued.)

Ion. I know an Animal from a Vegetable now, mamma,—because it has only one mouth, and it has *two organs more* than a Vegetable.

It has one mouth, the organ for *procuring* its food;

A stomach, the organ for *preparing* its food; and

A heart, the organ for *circulating* its food, when it has been made into blood.

M. Then let us look for the next difference. Animals, you know, can move about on the earth. Most of them are very fond of motion—they will often creep, or run, or fly, or swim for a long time, without feeling tired; so that they are constantly *exercising* their bodies. Now, when a carpenter is constantly using his *tools*—exercising them—what will happen?

Ion. They will wear out.

M. So will "organs" wear out, in time. You are constantly moving about, Ion, and exercising the organs of your body, so it wears out, and wastes away. Now, why is it that your blood, instead of just going "up and down," like the trees' sap, is circulated by your heart through every little corner of your body?

W. Oh, I see, mamma! To *mend* it where it is wasted, that is, to make new flesh—"keep it in repair"—that's what I mean.

Ion. But the *old* particles of flesh, which are wasted, how are they carried away from my body?

M. This is also done by your blood, partly. I must tell you. Last week, when you ran all the way home from school, you exercised your body too much. Then your heart beat very fast, and the blood circulated too quickly.

Ion. Yes, I felt my heart beating.

M. And when your blood circulated quickly, the "waste" was carried away quickly. I saw some of it coming away in a liquid state. It came in little drops through the pores of your skin. Some of them trickled down your forehead, and we called them "perspiration." But some of this waste came from your body in a different manner. I saw some particles coming away in a *fluid* state. You opened your mouth, and it came out so quickly that you could hardly speak.

Ion. That was my *breath* coming out of my mouth! But, mamma, I thought that breath was made of *air*.

M. Not entirely. Breath consists of particles of the air, and particles of the waste of your body mixed together.

I think you can easily understand how it is made. You see this dark vein in your arm? It has a dark look because it contains blood which is nearly black.

L. I thought that blood was always *red*, mamma,—what makes it black?

M. It has this dark colour because it is full of particles of the "waste" which it has collected from your body. It will flow on through many other veins, until it reaches your heart. Your heart will then pump it into *another organ*, where it will meet with the air which is flowing down your windpipe. As soon as this air gets down to the black blood in this *organ*, it makes it clean and red again.

This is done by carrying away all the waste from it. Some of the particles of the air mix with the dark particles of the waste, and make breath, as I told you.

Ion. Thank you, mamma! Now I know what breath is made of—but what is the name of *that organ* where the air meets with the black blood?

M. It is called "*the Lungs.*"

W. But the plants, mamma!—They do not want any lungs, because they have not any waste, I suppose. They do not go out for a walk, or take exercise.

M. The *leaves* of plants are something like lungs. Their sap is *thin*, like water, when it goes up to the leaves; but these leaves expose it to the air, and it is thus *altered;* for when it comes down the tree, it is much thicker.

L. Then that will make another difference.

4th difference,—*Most* ANIMALS *have organs for purifying the blood, called Lungs.*

VEGETABLES *have not—but they have organs something like lungs, called Leaves.*

M. We will now find another difference. Come here, Willie, and let me pinch you!

W. Oh! mamma. I'd rather not, thank you! I'll pinch myself—there!

M. Well, what has happened, Willie?

W. It happened that there was a *pain*—a sharp feeling, just here—in my arm.

M. Now, take the edge of your thumb nail, and pinch it. Now pinch some of the hairs in your head! There was no pain then, I'm sure. Why is it that there is no pain in those parts as well as your arm?

W. I don't know, mamma. Please tell me!

L. Well, underneath the skin of your arm, and in nearly all parts of your body, there are thousands of very fine threads, which are like a beautiful network. These threads are called *Nerves*, and, directly you touch a nerve, you feel a pain, or, as we call it, a *sensation.* You cannot, however, find any nerve in your nails, or in the hair of your head, except at the *roots.*

W. Then, *that* is the reason why we do not feel any pain! But we do feel a pain when we pull out hairs from our heads by their *roots.*

M. Some of your organs have curious nerves. One organ has nerves which can feel smells, or *perceive* smells, we say.

W. That is my nose—but do those nerves *feel* the smell themselves? I thought that *I* always smelt the flowers myself!

M. That is right, Willie. You *use* these nerves, and they convey the smell to you.

W. Do they bring it to *me*, mamma? Then, where am I?

M. That I will tell you in our next lesson. We are learning about *Nerves* now. Another organ has nerves which can convey *sounds.*

Another organ—your tongue, has nerves, which you use to perceive tastes. Your eye has different nerves, which perceive the colours of things—their shape and size. These organs, with peculiar nerves, you know, are called *Senses.* We shall learn more about them next Tuesday.

Ion. But Vegetables have not any nerves, or any senses; so that will make another difference.

5th difference,—ANIMALS *can feel, for they have nerves, some of which form organs called the Senses, but*——

VEGETABLES *cannot feel, and have not any nerves.*

THE SAXON HEPTARCHY.

THE INTRODUCTION OF CHRISTIANITY.

P. What period are we learning about now?

L. The period of the seven kingdoms—the Heptarchy. We heard last Wednesday of the system on which they were managed—it was called the "Allodial System;" and you were to tell us, papa, how the people learned of Jesus Christ.

P. So I will. You may remember that the Saxons worshipped Thor and Woden, and other strange gods. When they found the Britons worshipping the true God, as the Romans had taught them, they would not allow it. But they had now settled down quietly, and they were better able to think.

It happened one day that as the Pope **St. Gregory** was passing through the slave-market, at **Rome**, he saw some beautiful white children standing up to be sold, and he asked what nation they belonged to. He was told that they were *Angles*, from Britain. "Ah!" he said, "If these children were Christians, they would not be 'Angles,' but 'angels:'" and soon after he sent a missionary to this country to teach the Saxons.

This good missionary was called **Augustin.** He came over quickly to the King of Kent, and told him that he had glad news for him, from God; and that he might be saved, and be happy for ever.

The king, who was called **Ethelbert**, listened to him, believed him, and became a Christian. Then the good monk was so encouraged that he preached the Gospel as often as he could; and, before he died, not only the Kentish people, but many of the other Saxons determined to give up their idols, and to follow Jesus.

Soon, there came more Monks from Rome; and the people were so glad to hear the truth, that some of them went to Rome that *they* might become Monks, and might learn to preach.

They also had clergymen, called *Bishops*, who used to superintend the others and teach them; the two principal Bishops were called "Archbishops." They made an Archbishop of Canterbury, and another in York. There was a Bishop in London, a Bishop in Winchester, a Bishop in Worcester, in Rochester, Hereford, Durham, and other large towns.

They also built large churches with *organs* in them. In the year 604, King Ethelbert founded a church in London, called *St. Paul's;* and, in 611, another king founded a church, called *Westminster Abbey.*

The Monks did not live alone by themselves, but several of them lived together in large houses, called Monasteries, or Abbeys. There they had schools for children, just as the Romans used to have; and rooms where poor travellers, who were tired, might stop and sleep. So, because they tried to do good, the people gave them money, and lands for corn-fields, and gardens. Thus, in time, they became very rich. Some of these Monks were very pious and learned; and one, called the Venerable Bede, was a very wise and good man indeed. But, I am sorry to say, they were not all so. Many of them were ignorant, and even wicked, for they taught the people many foolish things, which were untrue. We call such foolishness, "superstition."

Besides preaching and teaching, the Monks would practise *a trade.*

The kings thought that preachers ought to have a trade, just as our Saviour had—and to work like the Apostle Paul. In an old Saxon work, a king called **Edgar** says, "We command that every priest do diligently learn some handicraft." So we hear of one Monk as being a *good blacksmith.* Another was made an abbot, because he was a clever goldsmith. Ethelwald, a bishop, made bells for the churches, and "a wheel full of small bells, much gilt—to turn round and make music on feast-days."

W. I should think that an *Arch*-bishop must have been *very* clever!

P. Yes, Dunstan, the Archbishop of Canterbury, could draw well—he could paint patterns for a lady's gown—he was a smith—and could work in all kinds of metals. He made two great bells for the church at Abingdon.

The *laws* of this period were improved a little, but some of them showed that the people had learned superstition. They would sometimes try whether a man had done wrong, by making him put his hand into boiling water, or carry a red-hot iron. If one man killed another, he had to *pay* for his sin with a large sum of money.

In time, however, the people began to *think* more, and they found out a way to make good laws. They used to hold a great assembly, in which the nobles, and bishops, and rich men met, and considered about the laws very carefully, before making them—just as members of Parliament do now. This great assembly was called "**The Wittenagemot.**"

Now that you know something of the customs and laws of our ancestors, I will tell you something about their kings.

It was not a good plan to divide Britain into seven kingdoms, for the kings were always quarrelling. The King of Sussex would think, "My kingdom is not large enough, I should like to have a piece of Wessex;"—and each king would so often be wanting to make his own kingdom larger, and his neighbour's kingdom smaller, that there were too many wars. One of the kings was chosen to be master of the other six—and was called the **Bretwalda**, or ruler of Britain, but the others would not obey him properly.

At last there was a King of Wessex, called **Egbert.** He had lived in Europe, with a great king, called **Charlemagne.** There he became so wise and brave, that, when he came to Britain, he managed to conquer all the other kings and be the only king in the Island.

So when he had done this, he went to Winchester, where the bishops and priests met him.—They made a great pomp,—put a crown on his head, and called him **Egbert the First, King of all England.** Thus the Island's name was changed from "Britain" to "England"—and instead of being divided into a *Heptarchy*, it was a Saxon kingdom. This was in the year 827.

Lessons 8 *and* 9. **The Saxons.**

(16.) *The Saxons divided England into seven kingdoms, and lived together on the "Allodial System." They soon afterward learned the Christian religion. The names of these seven kingdoms were* **Northumberland, East Anglia, Mercia, Sussex, Essex, Wessex,** *and* **Kent.**

(17.) *After many contests between these kingdoms, they were united into one by King* **Egbert.** *The Island was then called* **Angle-land or England.**

(18.) *The* **period of the Saxon Heptarchy** *ended A.D.* 827.

SALT *(Concluded).*

Ion. You said, mamma, that we should hear to-day *why* men and animals require so much salt.

M. Then listen, and I'll amuse you.

W. Oh! here is a curious thing mamma has brought from under the table. What is it—this shining stuff, like silver, mamma?

M. This is a metal called *Sodium;* it is a deadly poison. And in this retort is a gas called *Chlorine.*

L. Ah, that is the bleaching gas, which makes the "chloride of lime."

M. This gas, too, is a poison. Now, see me put a little of the metal with the gas.

W. Ah, there! Oh, mamma, let me clap my hands, please. What a beautiful flame!

M. It will burn a little longer. Now, see what there is left. There is a *white* substance. Taste it!

L. Why, mamma, that is Salt. How strange,—for two poisons to make such a good thing as salt.

M. This salt is not now poison. It contains two other substances,—muriatic acid and soda. You will understand this better, one day, if you study Chemistry.—What are the names of the two substances in this salt?

L. Muriatic acid, and soda.

M. Now you shall see *why* we want salt with our food. I told you, in our Natural History lesson, that the food you eat must be made liquid, so as to become part of your blood.

W. Yes, mamma. First, our teeth chop it up, and then it is dissolved in our stomachs *by a juice.* I don't know what the juice is called.

M. It is called the *gastric juice.* When you take any salt into your stomach, the muriatic acid helps to make gastric juice; and the soda in the salt forms part of another juice, called bile; and, both of these juices are useful for changing your food into blood, or *digesting* it.

W. Now I see, mamma. Then, it is no wonder that the poor animals go so far for it. They can't make their food *digest* properly, I suppose. You told me, mamma, that vegetables were harder to digest than meat. I suppose that is another reason why the farmers give the sheep salt.

M. Do you think that you quite understand now *why* we require salt?

Ion. Yes, mamma. It is very easy,—it makes *juices* to digest food.

M. Now you shall hear where the salt is procured.

Here is the salt-cellar. Let us go to the place where the salt came from. We must travel all the way from this table to CHESHIRE.

W. Get your hat, Ion.

Ion. No, no. Mamma means "travel in your mind."

M. Yes; by three different railways, until you reach a Cheshire town called *Nantwich.* There you will find, flowing from under ground, springs of water, which are very salt,—they are called salt springs. This water is put into large iron pans, and boiled. The particles of water then form vapour, and rise up in the air; and, when all the water has changed into vapour, what is left in the pan?

W. Nothing! mamma.

M. But I said that the water contained *salt.* Now, the salt will not change into vapour. So, although the water goes away, they find the salt remaining at the bottom of the pan.

W. Well, then. That is not *making* salt,—only separating it.

M. Salt is not only found in these springs; but you know that the sea-water is salt. This water is put into large clay pits, where the heat of the sun dries it up, leaving a thick crust of salt at the bottom. The salt from the sea is called *Bay salt.*

If you travel through Chester, past *Middlewich*, another town where they make salt, you will come to a town called *Northwich*, where it is dug out of the earth. There is a large mine of salt, which is as wonderful as the Northumberland coal mines. The salt is dug out in large lumps; it is coarser than the salt from the sea, or salt springs, and is called *Rock salt.*

But the most wonderful salt mine is in Europe. It is near *Cracow*, a town which was once the capital of a country called Poland. Many travellers have been to see it. I once read an account of it, written by a gentlemen. He said—

"I and my guide, and two men with lamps, were let down the shaft, or opening, by a rope. Down we went—we were going to the depth of 150 feet; but, when we had reached 90 feet, we stopped at a broad open cavern, as large as a field. Here I saw large rocks of pure salt, which looked rather dingy; but, by the light of the oil lamps, I saw that they sparkled a little. We heard around us, in all parts, the busy sound of spades, mattocks, and wheelbarrows. We saw, in one part, great casks of salt, ready to be hoisted to the surface; beyond them were sleeping rooms for the miners, and stables for 20 horses. This large place was called the *first floor* of the mine, and its height was about 20 feet."

W. That is nearly twice as high as our drawing-room.

"We then went out of this open cavern, through a long gallery, to another part of the first floor. We passed several turnings, which branched off in different directions like streets and lanes; and, at last, we reached *a Chapel* made of salt. There was an altar, a crucifix, a statue of the Virgin, and two images. They represented the Emperor and his wife, and were cut out of the solid salt. We saw, too, an ancient-looking pulpit, in the Gothic style.

"After we had wondered at all this, we went down to *the second floor*. This was 100 feet lower. The lamp-bearers went first, and I followed them down a long flight of steps. The cavern in this floor is not quite so large. It consists of one spacious hall, and has not any pillars to the roof.

"Here I noticed some miners cutting an enormous mass of salt. It was much taller than themselves, and I trembled for fear it should fall upon them. Some other men were packing salt in barrels, like those in the first floor.

"We passed on; then down we went again, lower still, and reached *the third floor*. There, as we walked along, we saw now and then a cavern full of workmen. Sometimes they were wheeling their little carts along the galleries; each cart was full of salt, with a lamp in the front.

"We followed our guides until we were very tired, and then we reached a wooden platform. Here we saw before us a broad, black, and dismal cavern, and we stood for a long time trying to see into it;—the guides held up their lamps, but they were not bright enough to lighten it. There is a chandelier made of crystal salt, hanging from the centre of this cavern, and when any prince or great personage visits it, it is lighted up with 150 lights. Then, the inside may be seen, looking like a great castle in ruins. At the bottom are some rows of seats, rising one above the other, like the gallery in an infant-school; opposite these seats is an orchestra (that is a place where musicians play), and on such grand occasions, a small band play a slow simple tune, which echoes through the cavern; and, sounding solemnly, has a singular effect.

"We left this cavern, and then we went down again, deeper and deeper into the earth—*to the fourth floor*."

"Here is a dark subterraneous lake, 80 feet long, and 40 feet broad. When great people come to this place, they sometimes travel over it on rafts, made of fir logs, lighted up by many torches. In this part, the bed of 'green' salt ends—here it is 700 feet below the surface of the earth."

"Beneath this bed of green salt there lies the finest *crystal salt*. It is reached by long flights of steps, and inclined planes, and is in a cavern 300 feet lower."

W. Why, that makes *a fifth floor*!—and, if it is 300 feet lower, it is *a thousand* feet below the surface.

M. Yes, this cavern is even lower than the sea. Yet it is large enough to exercise a regiment of soldiers in. The air here is very cold.

After visiting this floor, the gentleman went up the mine again, and returned to the earth's surface by a different road, passing through more caverns and galleries. I should think that he and his men were very glad when they breathed the fresh air, and saw the light again; for, although they had been in the mine all day, they had only seen a small part of it. I have heard that, to visit the whole of this extraordinary and astonishing place, they would have had to travel a distance of no less than *three hundred miles!*

W. That *is* a wonderful tale, mamma. And are these salt mines in Poland now?

M. Yes. Perhaps you may see them one day, if you grow up to be a man. But I have just thought of something else about salt. You may not only find it in Poland, but in other parts of Europe. There are large mines in France, Germany, and Hungary. In Spain there is a solid rock of salt, so large that you have to travel nearly three miles to walk round it. It is more than three times as high as a house. The peasants, I have heard, break off great pieces, to make into pots and cups for their own use.

There are large salt rocks in Asia; and, in Africa there is a *plain* of salt so large, that it would take four days to walk across it. There are also, in Africa, lakes of dried salt, to which the natives travel with baskets and pickaxes, and dig it out.

In America there is a country called MEXICO, which yields 1,800,000 bushels every year. Thus, you see that there is salt spread all over the earth, besides the salt found in the springs, and the sea. No place is entirely without salt. Who do you think has arranged this, that there should be salt everywhere?

Ion. GOD did, mamma, of course.

And I think it was very good of God to do so, when He knew how much all men and animals want it.

M. Yes, Ion. I have read that nearly every man on the globe will, when he can get it, consume from five to six ounces of salt per week. How sorry we should have been if all the salt in the world had been put in one place! There are many things in this world which show how the good God thinks of man—many things which we have not found out yet. Ah! He thinks more about us than we think of Him!

W. Mamma! I like the quality *conservative* in salt, best. I have found out something from that word. Don't you remember, when we went to Uncle John's farm in the country, that he used to argue with papa about politics? Well—he said to papa, that he liked to preserve the old laws, and not have new ones; and I think that is why papa called him "a Conservative."

Ion. Or else it was because he talked so much about preserving his game. He used to put salt on their tails, I suppose!

P. Now you are making *game* of the Game Laws, Ion. It was because your uncle wanted to preserve the Game Laws, and other old laws, which I think have "turned bad" and won't keep much longer—that was why I called him "a Conservative."

But there are two ways of being conservative. I will give you a better idea from that word.

When Our Saviour was in this world, and was teaching men, *He* thought about the quality "conservative;" and He said to his disciples, "Ye are the salt of the Earth."

Ion. I suppose he meant by that, that they might be useful to preserve men from becoming wicked, just as salt preserves meat.

P. Yes, Ion; and out of His book he says it again, to you and to all people. Therefore,—mind and copy Jesus, so that *you* may become conservative. Then, how happy you will be, for he will help you to preserve many people from doing wrong, or from "turning bad."

M. Now we will make up the lesson. First write down the *qualities* of salt, Lucy.

LESSON 7. SALT.

L. (1.) *Salt is soluble and granulous, it has a saline flavour. It is white, fusible, and conservative; and a mineral substance.*

W. I will say its uses, mamma.

(2.) *It is useful for preserving meat.*

It is useful to supply a gas for bleaching, called "Chlorine."

It is useful for making the glaze for earthenware.

It is useful for making part of the gastric juice, and the bile in our stomachs, so that we may digest our food.

And it is also very useful to mix with the earth as a manure. It will even preserve plants from some diseases.

Ion. Yes; and keep the snails away from them—that is another use. "*It is useful* to kill snails!" I will say its *history*, mamma.

(3.) *Salt is procured from Salt-springs. The water is poured into pans, and boiled until it is all changed into vapour; and, the Salt remains at the bottom.*

Salt is sometimes procured from the Sea, and is called BAY SALT.

Salt is also found under the Earth, where Salt-mines are formed—this is called ROCK SALT. *There is a very large mine at Cheshire—a much larger one at Cracow, and it is also supplied to man in many parts of Europe, in Asia, Africa, and America; and in nearly all parts of the World.*

THE CRUST OF THE EARTH.

ARGIL, OR CLAY.

P. To-day, we shall examine another part of the Earth's crust. I have brought you a piece.

L. That is a piece of clay, papa. I can tell by its brown colour.

P. That is right, Lucy; but not all clays are brown. There are blue, white, yellow, and red clays. Clays with all varieties of colour.

Ion. I will begin the lesson. Well, *that* clay is brown; but, as there are other coloured clays in the Earth, we will say that clay, generally, is *coloured.*

L. It is *odorous*, papa; for it has a curious smell, or a *peculiar* smell, I should say.

W. I'll tell you a fine quality, papa. It is *lumpy!* Have you never heard of Humpty Dumpty? I think *he* was made of clay; for, when he fell off the wall, he couldn't get up again.

P. He was a piece of mortal clay, no doubt. I suppose that by "lumpy" you mean *heavy.*

W. Yes, and no *spring* in him.

P. That is right; it *is* so with the clay. See, now that I have thrown it on the ground. It lies there like a piece of lead.

W. If, when you throw anything down, or press it with your finger it springs back again—what do you say of it?

L. We say it is *elastic;* but the clay is not elastic—see me press it!

P. Because it is not-elastic, you may call it *in*-elastic.

W. And lead is inelastic, papa; and mud, and putty, and batter; but there is one thing I like in inelastic substances, you can make an impression upon them, and they will *keep* it. Suppose you tried to make an impression on your India-rubber!

Ion. Clay is *more* than impressible. It will let you do anything you like with it. I saw a country boy once, who had made a man of clay. All at once, he took hold of his "man" by the head, doubled him up, and in a minute made a candlestick of him, to put inside his grotto of oyster-shells.

W. Ah! and you try a man that's made of India-rubber! and see if he'll let you double him up in that way!

Ion. But you can serve a lump of dough or putty in that way. What do you call a substance, papa, when you can so easily make it into any shape you please.

P. We say it is *plastic.*

Ion. Then *clay* is. It is coloured, inelastic, impressible, and plastic—and it is a *heavy* earth, we said.

L. But clay is not always *plastic*, like this piece. In dry, hot weather it is very hard, and it crumbles—it is *friable* then. But in wet weather—after a shower of rain?

W. Ah! then it is very soft, and full of puddles. If you walk on it, it sticks to your shoes—so, you see it is different according to the weather. Thus—

It is *always* coloured, and odorous; but in *dry* weather it is hard and friable—

In *wet* weather it is soft and sticky; but in—in *fair* weather (I mean by that, neither dry nor wet) it is inelastic, impressible, and plastic.

P. I will now tell you something else about clay. It forms a very great part of the Earth's crust—it is even more plentiful than *lime.* Suppose that the Earth was all chalk?

W. Then it would be too dry and dusty, I should think. Even when it rained, the water would sink through it so quickly, that it would become dry again as soon as the sun began to shine.

So it must be a good thing to have clay to mix with the lime—because, you know, clay doesn't absorb water half so fast. We said that it made *puddles* in wet weather.

P. And, don't you remember how the pond, at the end of the garden, was made?

Ion. Oh, yes, papa. The man plastered clay all round the bottom and sides—then, that was to prevent the water from sinking into the earth. And poor people build their cottages of clay—that is because it becomes hard in dry weather.

L. And *rich* people build houses with clay—they make hard bricks with it. I once saw some brickmakers in a brick-field. They mixed sand with their clay and called it *loam*.

They baked the bricks, or rather *burnt* them, in a kiln to make them very hard.

W. About as hard as the cook makes her pie-crust when she burns it in the oven.

P. There are other kinds of clay; there is a fine clay which is burnt to make pots and pans. It is called *Potter's Clay*.

There is a finer clay still, found in Dorsetshire;—it is mixed with a paste formed from flints, and is used to make porcelain—this is called *Porcelain Clay*.

There is another white clay which is used to make pipes.

W. And is called ***Pipe-clay***, I suppose.

P. That is right; and this clay is also used to extract grease from your clothes, and from linen. There is another kind of clay—rather coarse—which I once saw the servant use in scrubbing out some grease from the floor. It is called *Fuller's Earth*.

There are many *hard* substances in nature which contain clay. The slate you write upon at school is formed partly of clay.

W. Ah, and I remember now, papa, that my slate, when I wet it and clean it, *has* a smell something like the smell of clay,

P. It is the clay, *or Argil* as we call it, in the slate, which causes that smell.

You may now make a lesson on the earth Clay.

Lesson 4. CLAY.

(1.) *Clay, when it is wet, is soft and sticky;—when dry, it is hard and friable;—when neither wet nor dry, it is impressible, inelastic, and plastic. Clay is always odorous and coloured.*

(2.) *Because of these qualities it is useful in forming the bottoms of ponds, and beds of rivers—for the walls of cottages, and bricks of houses.*

(3.) *There are many sorts of clay, all of which are useful—*

POTTER'S CLAY, *which is used for making pots and earthenware.*

PORCELAIN CLAY, *which is used for making "China."*

PIPE-CLAY, *which is used for making pipes, and extracting grease; and—*

FULLER'S EARTH. *It also forms part of* SLATE, *and other earthy substances.*

THE TRAVELLER THROUGH ENGLAND.

CUMBERLAND.

P. Here is Mr. Young's letter on Cumberland.

MY DEAR CHILDREN,—

I will tell you to-day, some of my adventures in Cumberland.

When Peg and I left my good friend the coal-factor, and had reached the outside of Newcastle, we set off towards the West. After passing many different places, we started for the CHEVIOT HILLS, which we reached on the next day. Peg did not seem to care about seeing them, so as it was nearly evening, I found a stable for her, and went to bed early myself.

The "boots" woke me up the next morning, at a quarter to five; and I set off, alone, for the Hills. On my way, I found one of the poor shepherds who live in these parts, sitting on a stone. He had a dark grey coat, which was very ragged, and mended with patches of red cloth and black cloth, and his hat was worn out, and bent. The shepherds here get a very miserable living by minding the sheep; and, when I saw the dry crust of bread he was eating; and how his good-natured dog, with a thin and hungry countenance, looked up for some crumbs,—then, I felt so much pity for them, that I gave the man three shillings, and told him to come and be my guide.

Away we trudged up the side of the hill; sometimes I stopped to pick a few of the very small wild flowers, which were growing on the turf, or to look at the bright drops of dew on them. "How misty and damp it is!" I said. "I ought to have brought my great coat."

"Yes, sir, and the air is rather *raw*, for an August morning."

"This spot," I said, "is very bleak; let us go a little further, and sit down under that ledge of rock."

"What do you mean by *bleak*, sir?"

"Bleak means *damp* and *chilly*. Now, as it is not bleak here, we will wait until the mist is cleared off; and then we shall see the hills. You must know that I am travelling through England; but, as I have to be in Westmoreland at the end of the week, and cannot stop to see all the mountains and lakes here, I want you to describe them. Here is my map."

"I cannot read *maps*, sir; but I can tell 'ee of some of our mountains.

"There is one called SADDLEBACK, which is very high—nearly 3,000 feet. Another one called SKIDDAW is higher still. Black eagles used to build their nests on the craggy rocks there. Ah! and that's the place for snow in the winter time! There is another one called SKA-FELL, which is the highest mountain in England."

"Can't you tell me anything about them?" I said.

"No, sir, except that they be mountains—very *bleak*, as you say, for the cold winds do blow over the North Sea, and Scotland. But they be very kind sort of places, for all that, for they keep the winds away from the Southern countries, and make them more warmer than they would be otherwise."

"What becomes of the snow on the mountains, in summer time?"

"Why, sir, it comes down, you see, because it melts."

"And where does it go to?"

"It can't go nowhere, because why, there be no place for it to go to. It can't get out from between them high mountains—so, it stop at the bottom, and make large, large, very large ponds, which be called 'Lakes,' and sometimes 'Meres' Some of these here lakes have found a way out. The largest one, called *Derwentwater*, flows into the *River Derwent*. They be beautiful, broad, bright sheets of water; and when the white clouds move across the blue sky, they seem to be moving in the water, too. But you'll see some lakes, sir, when you go to Cumberland.

"You should go, sir, to see the *moors* in these parts, they be very broad places. The grass grow there and the sheep feed—but the wind blow across them, so that the grass be very short, and the land altogether barren.

"There be other places in Cumberland where you would not like to live at all. Not many things live there except long rushes, and grass—and, may be, a few frogs. There be wild berries and bushes too—but nobody cultivates the ground—and, for many miles it be a wild place, very wild, very wild—we call them 'the wastes,' sir."

"Ah! then," I said, "I'd rather not live in Cumberland. You say that it is made up of bleak mountains — beautiful lakes — barren moors — and wild uncultivated wastes. I should not like to dwell on a mountain, or in a lake, or in the other parts. If the country is full of such places, where do the people live?"

"I doen't know, sir—there be a great many beautiful and pleasant places here—but still, sir, I have heerd say that because our county be so cold,—there be less people in it—for its size—than in any other county."

"Yes," I said, "I have heard before, that it is not populous. I don't wonder at it. The mist does not seem to clear up from these hills."

"No, sir. It be a 'misty morning.' It is rising a little you see, sir. Hark at the sheep bell!"

"Yes. What a number of Sheep! I can see now," I said—"they look like little *dots* on the hills—I can't see any one taking care of them."

"They doesn't want much taking care of, sir—they take care of themselves and help themselves. They're all in disorder now,—but if they hear any noise—or think there be any danger. Ah! look *now*, sir—they be alarmed,—they *have* heard something, and have all run together."

"Yes," I said, "how orderly they are—there they go, in a line. The old sheep with the bell is first, and the others are behind him. There they go! marching in a row like a regiment of soldiers."

"They often walk so, sir, and d'ye see these 'ere marks like little paths? These have been made by them when marching—they are called 'sheep walks.'"

"Why—my good friend!—*it is* 8 *o'clock!!* No wonder that I begin to feel hungry—and, I'm afraid I am keeping you from your work. I must go."

"And, you'll be wanting your breakfast *very much*, sir, by the time ye get home. I'm afraid ye'll not see the hills to-day—it be too cloudy and misty."

"Well, good bye, my friend!"

"Good bye, sir. I be much obliged to you for them three shillings. I'll buy some meat for my little girl, and some for my dog." And the dog, who had been paying great attention, and had listened particularly to the history of the sheep, wagged his short tail at this, looked great gladness out of his eyes, then barked "good bye," and followed his master.

Poor man, I thought, as I sauntered down the hills, I shall get more pleasure than he will from that three shillings; because, I know it is worth to him as much as three *pounds* would be to me. Yes, that was a good "bargain" when I made him my guide; for the three shillings have changed to just *twenty times their value* in going from my pocket to his. I'm very much pleased.

After breakfast, I looked for the shape and the boundaries of Cumberland on my map, and made these notes which I send you, and remain,

Dear children,
Your ever loving friend,
HENRY YOUNG.

NOTES.—*CUMBERLAND.*

(1.) *Cumberland has a long, irregular shape.*

(2.) *It is bounded on the north by* SCOTLAND; *on the east by* NORTHUMBERLAND; *on the west by the* SOLWAY FIRTH; *and on the south by* WESTMORELAND.

(3.) *Between Cumberland and Northumberland are the Cheviot Hills. These hills are the beginning of a long line of mountains which run through England, and are called "The Northern Range." They are very "bleak" places, and are something like the county itself, which consists of bleak mountains, beautiful lakes, barren moors, and wild, uncultivated wastes.*

On this account, Cumberland has not many inhabitants. Indeed, it is the least populous county in England, in proportion to its size.

There are three mountains, named Saddleback, Skiddaw, and Sca-fell.

MOTHER, how still the baby lies!
I cannot hear his breath,
I cannot see his laughing eyes—
They tell me this is DEATH!

They say that he again will rise
More beautiful than now,
That God will bless him in the skies—
Oh, mother, tell me how!

Look at that wither'd worm, my love,
An empty shell it lies;
Now raise your wondering glance above,
To where yon insect flies.

O mother! now I know full well,
If God that worm can change,
And draw it from this broken cell,
On golden wings to range,

How beautiful will Brother be,
When God shall give HIM wings
Above this dying world to flee,
And live with heavenly things!

PLEASANT PAGES

FOR THE

10th Week. MONDAY. Moral Lesson.

"*A fool uttereth all his mind; but a wise man keepeth it in till afterwards.*"—PROV. xxix. 11.

One—— Two——
Three—— Four——
Five—— Six——
Seven—— Eight——
Nine—— Ten——
Eleven—— TWELVE——

said the clock in the Market place.

"SHUT — BOOKS !" said the Schoolmaster.

Soon, the books were collected—the boys made their bow to their teacher, and went out for their half-holiday.

"Now, boys !" said EDWARD EVERSURE, who was the head scholar, "we are to meet at three for Cricket. Every member of the club who may be late, to be fined one halfpenny.—Rule the third."

Every boy intended to enjoy himself that afternoon, for it was the 1st of May ; and there was to be plenty of dancing and fun on the common. So at three o'clock many of them met for cricket, played till they were tired, and then sat down to rest.

"Do you know," said Eversure, "that the chimney-sweeps have made a Jack-in-the-Green this year? It is seven feet high, and there is a crown on the top, made of silver-paper."

"Yes," said James, who had just come in,—"I saw it as I came past the Workhouse, but it had a *golden* crown; at least, it was covered with gilt."

"I am sure it was not," said Eversure. "Don't you know gilt from silver? Why, I saw Hawkins, the chimney-sweep, buying the tinsel for it last week, when I went to get a peg-top: and the Jack-in-the-Green came past our house this morning."

"Well, Eversure, I saw the gilt crown on it ; and there were four dancers."

"There, James ! that shows that *you must have made a mistake.* There were six dancers, and a boy and a girl."

"But, Eversure, I counted the dancers, and saw the crown myself."

"Well, then, that shows that you did not count properly: for how *could* there have been a gilt crown, and six dancers, when there was a silver crown and four dancers. You don't mean to say that *I* have made a mistake, do you?"

James. I don't say anything about that. I only say that I saw a golden crown, and four dancers ; and that I am sure about.

Eversure. Then, of course, you mean to say that I am wrong!

James. No; I am not speaking about *you.* I am only speaking about myself. I don't say whether you are right or wrong; I only tell you what *I saw.*

Eversure. Then, that shows that you know nothing at all about it. And, I'll prove it; for here they come ! I can hear them, at the back of the Workhouse.

"I can hear them!" cried another boy. "I can hear a drum, and a mouth-organ; but the sound comes from the High Street. Now, I think I can hear a sound coming both ways."

"No," said Eversure, "it can't be in that direction. Here they are! they are coming down the Workhouse Lane; look at the crowd. Now we can see them! one, two, three, four men. There must be some more—there were six!"

"There are no more," said James, "only four; and, now I'll ask you all, if that crown is not of a gold colour?"

Eversure. Ah, but look this way! Here is another Jack-in-the-Green. It is coming up the High Street. Here they come! Six dancers, a boy and a girl, and a silver crown. You see I am not wrong, after all.

"And yet, Eversure," said James, "you see I was right. I did *not* make a mistake."

"And so was I right," said Eversure; "*I* didn't make a mistake."

"Yes, you did!" cried several boys; "you said that James was wrong—that was a mistake."

"You should only have been sure of *what you saw yourself*," said one.

"Yes," said another, "you went a little too far, for you contradicted James; and that was a rather rude thing for a gentleman to do."

"I'll never be sure of anything again," said Eversure to his father at tea time, after he had told him the history of the dispute.

"That will not be right," said his papa. "If we were not sure about *anything* in this world, we should always be in trouble."

"Then, was it right for me to be sure that there were six dancers and a silver crown, to the Jack-in-the-Green?"

"Yes. If you had taken pains to count them, and had counted them slowly, you *ought* to have been sure about it. I should have thought you a foolish boy, if you had not been. There are many things in this world which people should always be sure of. Nearly all the truth you find out with your eyes and your other senses, you should be able to speak of without hesitation."

"Well, then, papa, I was sure that there were six dancers; and, it was the most natural thought I could have in my mind, that if I was right, he must be wrong."

"Both things were quite *natural*," said his papa, "but you ought not to have felt quite sure of both.

"The first thought—that you were right, you ought to have declared most positively, because you *saw* the sweeps; but as to the second thought! you did not know what might have happened since you saw the sweeps in the morning, and ought to have said nothing about it.

"When James declared what *he* had seen, you ought to have said to yourself, 'his eyes seem to be as good as mine, and he can see very well,—he is as likely to be right as I am. I will not say that he is wrong, but will *keep that in* till afterwards.'"

Eversure. But still, I felt so sure that he was wrong.

P. Yes, you *felt* that; but you did not think enough. Many people are often so foolish as to say everything they feel as well as think; and then they have to learn this proverb:—

"A fool uttereth *all* his mind; but a wise man keepeth it in till afterwards."

DULCE DOMUM.

SING a sweet melodious measure,
Waft enchanting lays around,
Home's a theme replete with pleasure,
Home! a grateful theme resound.
Home! sweet home! an ample treasure,
Home! with every blessing crown'd,
Home! perpetual source of pleasure,
Home! a noble strain resound.

Lo! the joyful hour advances,
Happy season of delight!
Festal songs, and festal dances,
All our tedious toil requite.
Home! sweet home! &c.

Leave, my wearied muse, thy learning,
Leave thy task, so hard to bear;
Leave thy labour, ease returning,
Leave my bosom, O my care!
Home! sweet home! &c.

See the year, the meadow, smiling,
Let us then a smile display;
Rural sports, our pain beguiling,
Rural pastimes call away.
Home! sweet home! &c.

Now the swallow seeks her dwelling,
And no longer loves to roam;
Her example thus impelling,
Let us seek our native home.
Home! sweet home! &c.

Let both men and steeds assemble,
Panting for the wide champaign,
Let the ground beneath us tremble,
While we scour along the plain.
Home! sweet home! &c.

Oh, what rapture! oh, what blisses!
When we gain the lovely gate!
Mother's arms, and mother's kisses,
There our blest arrival wait.
Home! sweet home! &c.

HOW WE KNOW AN ANIMAL FROM A VEGETABLE

(Concluded).

Ion. We have noticed five differences between the Animals and Vegetables, mamma. But, now I have thought of a very great difference. All animals *know* things—vegetables don't know anything. Even if you could hurt a tree—give it pain—it would not know it. If a tree could smell the flowers underneath it, or hear when the wind is coming, it would not know anything about it. I wonder which is my *organ of knowing.*

M. We will see, Ion. Suppose you had a pain in your toe! your toe wouldn't know it.

Ion. No. Not any of my toes know much, not even my great toe;—then which part of my body would know about the pain?

M. Your body cannot know, Ion. It is only *you* who know, and, the organ you know with is called the *Brain.*

Ion. But, mamma, if the pain were in my toe, how could it be in my brain? How could it *reach* there, when my brain is at the top, and my toe at the bottom of my body?

M. Do you not remember my telling you about your nerves? I told you that they *conveyed* pain, that some conveyed scents, others tastes, and so on.

W. I remember that, mamma. Let us have another proof of that fact. I will tread on Ion's toe.

Ion. Ah, mamma! I felt the pain directly Willie did it. How quickly the nerves carried it up to my brain!—in an instant.

M. Yes, Ion. You have heard of the Electric Telegraph,—and you have seen the wires by the side of the railroad. You know that when a man makes a message in London, those wires will convey it 100 miles directly—with the quickness of lightning. Now, you have a telegraph in all parts of your body, but instead of wires, you have nerves.

Ion. Yes, mamma, and here is the central station. No! the terminus—and all "the lines" of my nerves end there!

M. And, so all the knowledge gained by your senses is conveyed there. Every smell your nose finds out, every sound your ears hear, every shape and colour and difference of size your eyes see—all find their way up there!

W. And, mamma, do all these things—smells, sounds, and tastes—travel along the nerves? Ah, no wonder that my brain knows everything that happens to me! It ought to be called *the organ of knowing.* I think that the baby will be a very knowing fellow, because he has such a large head.

M. Instead of calling your brain the organ of knowing, you may call it *the organ of consciousness.* But you must know that not all Animals have a brain—indeed, there are some in which men cannot find any nerves.

Ion. Then we must only say "*many* animals have." Now then—6th difference,—*Many* ANIMALS *have an organ of consciousness (or knowing) called "the Brain."*

VEGETABLES *have not any power of knowing.*

M. Now, I think we will write down all these six distinctions, again—and put them together in one lesson.

L. But, mamma, please stop! I have just thought of another difference. Animals can *speak.* That is to say, they can make a noise. Some can chirp, and others can bleat!

W. Yes, and animals can crow, and animals can bark,—and can buzz,—and can bellow, and howl, and sing!—and some can say, "What's o'clock?"

Ion. And some can say Cuck-oo! But not all animals have organs of speech; you never heard a *worm* speak, nor a fish.

L. Then we will say, 7th difference,—*Most* ANIMALS *have organs of speech.*

VEGETABLES *have not organs of speech.*

Now, we will write the lesson.

Lesson 6. HOW WE KNOW AN ANIMAL FROM A VEGETABLE.

We know an Animal from a Plant—

(1.) *Because it can move from one place to another of its own accord, and, therefore, only requires* ONE MOUTH, *which it carries to its food.*

(2.) *It eats solid food, and has an organ, called* A STOMACH, *to digest it.*

(3.) *It has an organ for circulating its blood, called* A HEART.

(4.) *An organ for purifying its blood, and for breathing, called* THE LUNGS.

(5.) *Organs of feeling, or sensation, called* NERVES.

(6.) *An organ of consciousness (or knowing), called* THE BRAIN.

(7.) *An organ of Speech.*

M. You must remember, however, that not all animals have these things. If you find a living thing with all these distinctions, you may at once be sure that it is an animal.

W. And I could tell, mamma, if it had only *some* of these things.

M. Yes. If, when you found a living thing, you could only observe that it had the power of knowing, or *consciousness,* this distinction would be quite enough. It must be an animal.

This is a distinction which all animals have. Many animals have not all the other six distinctions, but this one they *must* have. So, when you find a *living* thing which has not any *consciousness*—no matter what it is like—it must be—

L., W., Ion, & Ada. A vegetable.

THE STARS ARE BRIGHT.

THE stars are bright
This beautiful night,
But when the moon appears,
They'll fade as soon
As lamps at noon,
In the brightness that she wears;
The stars grow dull,
The moon at full,
Has now her course begun;
Her light will fail,
Her orb grow pale,
Before the glorious sun.

The sun's bright rays,
That dazzle and blaze,
Will soon go down in night,
But heaven above,
So full of love,
Will never lose its light;
More bright than suns
The starry crowns
That saints and angels wear;
But these are dim
Compared with Him
Who reigns in glory there.

TRAINING-SCHOOL SONG-BOOK.

THE SAXON KINGDOM.

INVASION OF THE DANES.

P. Where did we stop in our history last week?

L. At the end of "The period of the Saxon Heptarchy." We had learned of three periods:—

The Roman period, which ended A.D. 430*;*

The period of the Saxon Invasion, which ended A.D. 600*; and*

The period of the Saxon Heptarchy, which ended A.D. 827.

P. Then, to-day, we will begin a new period—*the period of the Saxon Kingdom.* I said, you may remember, that the seven Saxon Kingdoms were united—forming a kingdom which was called England.

W. And I suppose that now, when they had "settled down," the people began to make themselves comfortable.

P. They had only *begun* to make themselves comfortable, Willie, when some new visitors came.

L. Did they send in their *cards?*

P. No; for they knew they were not wanted, I'm sure: too many people had come from Europe already. The population of England was made up of Britons, Romans, and many Saxon tribes, so that there were three or four different languages spoken in the island. And, now, Egbert had only been king of England five years, when there came this most terrible company.

L. What part of Europe did they come from, papa?

P. Get your map of Europe and you will see. Opposite England is a small country called DENMARK, consisting of a peninsula, and some little islands. At the east of Denmark is a sea called *the Baltic;* and at the north of Denmark and the Baltic are two countries called *Sweden* and *Norway.* In the islands of the Baltic, and in the coasts of the countries round it, these lived barbarians, who were called DANES.

They were much like the ancient Saxons, except that they liked to fight on the sea instead of the land. With their ships they paid visits to countries far and near, to rob and kill the people. Living in a cold climate, they were very strong, and were rough and savage pirates. They seized the ships of other lands, robbed and murdered the sailors in the vessels they met on the waters; and, in time, they became masters and kings of the sea.

Very fierce fellows were these "Sea-kings." Poor creatures! they thought it was a fine thing to fight. They would fight like men who were mad; for they *liked* to be slain in battle, and thought it was the only proper way to die! A sea-king would not appear before his god after death, unless he was covered with wounds. So, if any king had the misfortune to live to grow old, he would, just before he died, cut great wounds in his body that WODEN might think he had been killed in a fight; or, he would load a ship heavily with stones, bore holes in it, and sink to the bottom of the sea.

The Danes would tell you "That is an honourable death,—only cowards die in their beds!"

So, it is no wonder that when they liked to be killed they were always fighting. They attacked Germany, France, and Spain;—went down in their ships to the Mediterranean, attacked Sicily, Italy, Rome, and even Africa. Then they had some struggles with the Saracens, the fierce followers of the false prophet Mahomet, whose "religion" was then spreading very fast. You shall hear more about Mahomet one day. I have heard, too, that there is very little doubt of their having made an expedition to America, a land which was not yet discovered.

So, having fought in so many lands, it might be expected that they would attack so near a country as England. When, therefore, Egbert had been king for about five years, in many parts of Kent was heard a cry of "The Danes!" "the Danes!"—Down they had come with fire and sword, burning the cottages, and murdering the people of the island of Sheppey, a place very near to the Isle of Thanet, which the poor Britons had first given to the Saxons. Egbert, when he heard of this, tried to catch and punish them; but this time they made their escape in safety.

The next year they came again. They came with thirty-five ships, and landed in Dorsetshire. They then travelled into Cornwall; but they were met and driven away by Egbert, who afterwards defeated them in two other great battles, and then died.

Egbert was succeeded by his son Ethelwolf, and by his grandsons Ethelbald, Ethelbert, and Ethelred. During the short reigns of these kings, which lasted altogether about thirty years, the Danes came almost every year to plunder the country, and to carry away riches.

Once they came with 350 vessels, and made a settlement, or colony, in the Isle of Thanet. Egbert's son, Ethelwolf, was then king; but he could not drive them away. He, therefore, made a pilgrimage to Rome, with his little son Alfred, who was then about six years old. There he made great presents of money—some for the lamps of St. Peter; some for the lamps of St. Paul; and he gave much money to the Pope himself. The people of England thought that by such good deeds the favour of Heaven would be gained, and that they should be safe from the attacks of the Danes. But the Danes came down from the Isle of Thanet, burnt the cities of Canterbury and London, and spread themselves all over the country. They continued their cruel ravages until the end of the reigns of Ethelbald, Ethelbert, and Ethelred, the three grandsons of Egbert; and by that time the island was nearly overrun with these robbers.

They killed the Saxon farmers, and made themselves at home in their cottages. They ate, drank, and feasted on their farms, and treated the people as their slaves. When they found a monastery (where, you will remember, the monks lived), they stole the gold, silver, and jewels, which had been placed there for protection, and often set the building on fire.

The country was thus in a most miserable and distressed state, when in the year 871 there came to the throne a man, who was destined to be a great king. He was the fourth grandson of King Egbert, and was called Alfred.

THE NORTHERN SEAS.

UP! up! let us a voyage take,
  Why sit we here at ease?
Find us a vessel tight and snug,
  Bound for the Northern Seas.

I long to see the Northern Lights,
  With their rushing splendours fly,
Like living things with flaming wings,
  Wide o'er the wond'rous sky.

I long to see those ice-bergs vast,
  With heads all crowned with snow;
Whose green roots sleep in the awful deep,
  Two hundred fathoms low!

I long to hear the thund'ring crash
  Of their terrific fall,
And the echoes from a thousand cliffs,
  Like lonely voices call.

There shall we see the fierce white bear,
  The sleepy seals aground,
And the spouting whales, that to and fro
  Sail with a dreary sound.

There may we tread on depths of ice,
  That the hairy mammoth hide,
Perfect, as when in times of old
  The mighty creature died.

And while the unsetting sun shines on
  Through the still heaven's deep blue,
We'll traverse the azure waves, the herds
  Of the dread sea-horse to view.

We'll pass the shores of solemn pine,
  Where wolves and black bears prowl;
And away to the rocky isles of mist,
  To rouse the northern fowl.

And there in wastes of the silent sky,
  With silent earth below,
We shall see far off, to his lonely rock,
  The lonely eagle go.

Then softly, softly will we tread
  By inland streams, to see
Where the corm'rant of the silent north
  Sits there all silently.

We've visited the northern clime,
  Its cold and ice-bound main;
So now, let us back to a dearer land,
  To Britain back again!

COFFEE.

M. Here are some Coffee-berries.

W. What nasty looking things!—they don't look nice and brown, like the Coffee in papa's cup.

M. That is because they have not been roasted. Tell me some of the qualities of these berries.

W. I should be ashamed of my qualities, if I were a berry. In the 1st place, they all have a dirty yellow colour; in the 2nd place, they have not half so nice a smell as the brown berries—indeed, they have no smell at all.

Ion. So, they are *in*-odorous. Let me taste them. Bah! They have a very nasty taste.

M. So you may say of the coffee-berries which are not roasted, that they are of a dingy yellow colour; inodorous; disagreeable to the taste—and, yet—the qualities which render coffee so nice to drink, must be *in* these berries—for the mere roasting could not make them taste so. Now—here are some roasted berries for you. Let Lucy examine them.

L. They have a brown colour.

W. But what sort of a brown? There are so many "browns."

L. A rich deep brown, a chesnut brown. 2ndly, They break easily—almost as easily as the brown crust of bread—so, they are crisp. 3rdly, They have a nice smell. I should call it *a peculiar* smell—it is very peculiar. It is not sweet, like the smell of a flower.

W. Let me smell it, please. It is not a sweet smell, and yet it is *rich.* It smells something like spice. What do you call such a smell, mamma?

M. We say it is *aromatic.* Tell me something else which has an aromatic smell.

L. Nutmegs have, mamma, and Cloves, and Cinnamon—and, all Spices, I suppose.

Ion. And Camphor has, and Myrrh, I think.

M. Yes. This scent is *peculiar* to the Spices, and one or two other productions of hot countries.

L. The *taste* of the berries, mamma, is rather bitter, but still it is agreeable. So I shall say that *roasted* coffee-berries are of a

deep brown colour,
crisp,
aromatic, and
agreeable to the taste.

M. There are more qualities yet. You cannot, however, find them out by observing the coffee-berries themselves. You can only discover them when you have taken the coffee into your stomach, and begin to feel its effect on your body—

Ion. What is an *effect?*

W. I can tell you, Ion. Suppose I were to strike you—then, you would feel a pain—that would be the *effect* of my striking you.

Ion. And I can tell you another effect. I should be *angry* with you.

W. Yes, and if I were to hurt you much, you would cry. That would be an effect—the effect of the *pain.*

Ion. Then, my eyes would be red, that would be another effect—the effect of the *crying.* I think I know now, what an effect is. It is something that is done to you.

W. It is not that, exactly. It is *that which comes after* anything that is done to you. Because—listen—if I strike you, I give you *a blow*—that is what is done to you. The pain comes after the blow, and that is its effect.

Ion. Yes, and my crying would be the consequence of the pain—the effect of it. And that which comes after the crying is *redness in my eyes*—so red eyes are the effect of crying. I know now. The effect is—the *consequence* of a thing—the consequence of an action done to you.

M. This may be very true; but you have forgotten the coffee: that is the *effect* of talking about things which do not belong to your subject. Now, suppose, Willie, that you drank two cups of strong coffee—when you had performed the action, what would be the effect of it?

W. I cannot tell, mamma! for I never did drink two cups of strong coffee. Just let me perform that action, and then I shall see.

M. No, Willie. I am afraid that it would have a bad effect upon *you*; it would make you ill. But if a man were very tired, and were to drink some strong coffee, it would make his blood circulate more rapidly, and appear to stir him up.

Ion. And what are we to call coffee, mamma, because it will stir up a man?

M. There is a Latin word *stimulare*, which means to stir up; and from that word we call the coffee *stimulating*.

L. Then, mamma, beer, gin, and wine are stimulating.

M. Yes; but you must understand that these things which stimulate, or *stimulants* as they are called, are not often good things; their pleasant *effects* do not continue for a long time; indeed, their effects *change* and become unpleasant.

Ion. I know that, mamma; because we sometimes stimulate the fire with the poker—stir it up. Then, the fires burn brighter and faster for a time; but if you give it much stimulating, it goes out sooner, or, it burns too fast, then it afterwards looks very dull.

W. And when you stimulate a horse with a whip, he trots along faster for a little while, but he gets tired sooner, unless you keep on stimulating him.

M. But let us return to the coffee. Coffee does not stimulate people very strongly;—it is a gentle stimulant. So, there are very few who do not like it.

It has another effect. If people drink it when they are tired, after it has stimulated them, it seems to put new strength in them, causes them to feel *fresh* again.

L. Then the "freshness," mamma, is the effect of the stimulating.

M. Yes. The other night your papa was rather tired and sleepy, and yet he wanted to sit up and study, so he drank some coffee to refresh him, and keep him awake. Many gentlemen at Oxford and Cambridge, when they want to study at night, drink it in order to refresh themselves.

Ion. So we will say that it has two effects, mamma. It is stimulating and refreshing, and sometimes, I think, the coffee makes you feel more comfortable;—it makes people look more cheerful. That is an *effect*, perhaps.

L. Yes. Once when papa had been soaked in the rain, he ordered some warm coffee as he came in, and after he had taken it, I heard him say how comfortable he was—he looked rather glad!

M. Well, that *was* the effect of the coffee. It makes people cheerful, and it brings gladness out from them.

Now, there are two Latin words —"ex," which means *out of*, and "hilare," which means *to make glad;* and from these words, we make our English word, *exhilarating*.

W. So, exhilarating means—"making the gladness come out of you."

M. It means "to make cheerful"—and, because coffee makes us cheerful, we say it is exhilarating.

Ion. And so is tea exhilarating! How people get glad, and *talk* after tea.

M. There are some other *effects*. It often has some bad effects on the stomach, especially with thin lean people. People, whom we call "*bilious;*"—but we cannot talk of these effects to-day.

L. Then I will count up the qualities of the Coffee, mamma, before we leave off.

UNROASTED COFFEE-BERRIES are
of a dingy yellow colour,
inodorous, and
disagreeable to the taste.

ROASTED COFFEE-BERRIES are
of a deep brown colour,
crisp,
aromatic, and
agreeable to the taste;

whilst, in their *effects*, they are refreshing, stimulating, and exhilarating.

THE SICKLE AND THE SWORD.

THERE went two reapers forth at morn,
Strong, earnest men were they,
Bent, each at his appointed task,
To labour through the day.

One hied him to the valley, where
Ripe stood the golden grain;
He reaped, and bound it into sheaves,
And sang a merry strain.

And lo! the other takes his stand,
Where rolls the battle's tide,
His weapon, late so clear and bright,
With sanguine gore is dyed;

And furiously he tramples down
And lays the ripe corn low;
He is death's reaper, and he gives
A curse with every blow.

To which of these two earnest men
Most honour should we give,
He who destroys, or works to save
The food, whereby we live?

And by the mighty Judge of all
Which, think ye, is abhorred?
Which deems He best for men to use—
The *sickle*, or the *sword*?

ADAMS'S PEACE LYRICS.

THE TRAVELLER THROUGH ENGLAND.

CARLISLE.

DEAR CHILDREN—

It is not very far from the Cheviot Hills to Carlisle. I forget now how many miles. Peg reached there in the afternoon.

I had heard it called "bonny Carlisle" in one of the *border* songs; and I found that it really was a bonny-looking town. It is built on a high piece of ground, whilst the country all round is a beautiful plain, with corn-fields, meadowlands, the river Eden, and the river Calder flowing through it.

Well! I thought—the country may be barren on the whole; but the people who built the capital chose a very pretty place for it, with plenty of rich and fertile land.

But the town itself was very pleasant to look at. It is one of the walled cities of England; and, as it is higher than the land on which I was standing, I could see very plainly the old Castle and the Cathedral, both built of reddish stone; and the new bridge over the river Eden, built of white freestone.

W. Then it has *lime* in it, if it is made of freestone.

Whilst I was at Carlisle, I learned several particulars about the place, which I will tell you.

The old Castle was built in the time of a king called WILLIAM RUFUS. It was once the prison of an unfortunate queen called MARY QUEEN OF SCOTS. This queen had offended her people so much that she was obliged to fly from her country; and one night she and a Scotch gentleman came in a little boat across the Solway Firth, which you may see is at the west of Cumberland.

At this time England was governed by Queen Elizabeth, whom, I dare say, you have often heard of. Elizabeth, instead of feeling sorry for Mary, and trying to help her, shut her up in Carlisle Castle; and, I am ashamed to say, that, after a great many years, she removed her to another castle, and caused her to be beheaded.

Soon after this, Queen Elizabeth died; then James Stuart, the king of Scotland, who was Mary's son, came to be king of *England* also; and ever since then, England and Scotland have been governed by one king.

Whilst I was at Carlisle, I heard some tales about the walls and fortifications. When England and Scotland were made into one kingdom, they really were not wanted any longer; and I should think that the Carlisle folk would have done well to have destroyed them.

It appears that James Stuart, the son of Mary, was not a *good* king nor were any of the kings of that family. When his son, Charles I., came to the throne, he governed so badly that, after a time, the people and parliament disobeyed him; and, for many years, there was what is called a civil war.

W. I never thought that people could be *civil* in war time.

L. "Civil war" does not mean that the people who fight are polite to one another; but, that people *of the same country* fight with each other.

W. I don't think that that is true. You don't mean to say that English people would try to kill Englishmen!

L. We shall see:—Some of the people and soldiers, who thought that the *king* was right, fought against those people and soldiers who thought that the *parliament* was right; and there was war and murder all over the country.

So, when the king's soldiers saw that Carlisle had fortifications and walls, they marched against the city, seized it, and shut themselves up in it. The army of the parliament then came to attack them; they encamped all round the walls of the city, and began what was called a *siege*.

When they could not take the city, they next resolved to *starve* their countrymen; so they made a blockade, which means that the inhabitants were all shut in.

The townsmen dared not, now, go outside the gates, for fear lest they should be killed; they had no other food except that which was inside the city, and when that was all gone, they began to feel hungry.

In the British Museum there is an account of this siege, and of some of the people's sufferings and troubles. It was written by a man who was in the city at the time; here is a part of it:—

At Christmas, all the corn and cattle were taken from the citizens, and were divided every week amongst the families according to their numbers.

* * * * *

April 3.—The horses had only *thatch* for food, all other provisions being exhausted.

May 10.—A fat horse being taken from the enemy, was sold for 10s. a quarter.

May 23.—Provisions almost spent.

May 30.—News that the king was come into Westmoreland. (They then expected that he would soon be there to help them.) The garrison were so glad that day that they ate three days' provision, and repented with a cup of cold water three days afterward.

June 5.—Hempseed, dogs, and rats were eaten. The citizens so shrunk, that they could not choose but laugh at one another to see their clothes hang on them, as upon men on gibbets,—for, one might put one's head and fists between the doublets and shirts of many of them.

June 17.—The garrison had only half a pound of horseflesh each, for four days.

June 22.—Some soldiers came to the common bakehouse, and took away all the horseflesh from the poor people, who were as near starving as themselves.

June 23.—The townsmen petitioned Sir Thomas Glenham that the horseflesh might not be taken away, and said that they really were not able to endure the famine any longer. Several women met at the Cross, abusing Sir Henry Stradling, the governor, who threatened to fire on them:—they begged it as a mercy, so he went away with tears in his eyes, and said he could not mend their commons.

There! how would *you* like to live in a town during a siege?

Jon. I would rather have been outside the walls. The townspeople would have been happier just then if they had had no fortifications at all.

L. Yes; for they were in trouble about them again; at least, their grandchildren were. Listen!

Not much more than 100 years ago—in the year 1745—Carlisle was again besieged.

The *Stuart* kings had governed so badly that one of them, called James II., was obliged to run away, just as Mary Queen of Scots did. About 50 years afterwards, in 1745, his grandson, Charles Stuart, came over to England; and, declaring that he was the proper person to be king, he was joined by several Scotch noblemen, and thousands of Highlanders, who marched with him to England. They besieged Carlisle and took it; and then caused "Prince Charlie" to be proclaimed king of England. After they left the city, the Duke of Cumberland, the commander of the king's soldiers, came and besieged it once more.

The first day that I came to Carlisle, I went to see the Cathedral of the city; but I was not much pleased with it.

The streets here are very full on a market-day. I made inquiries about the *manufactures* of the town, and found that they were cotton, whips, hats, and fish-hooks. I saw also quantities of salmon, which had been caught in the river Eden; some of it had been sent away by the different railroads that meet here.

I left Carlisle on the second day, and passed several places worthy of notice. I heard that on the western coast there are two large ports called WORKINGTON and WHITEHAVEN, where there are coal-mines, which extend many thousand feet *under the sea.*

I also heard an account of a village called BORROWDALE, where there is a famous mine. This mine contains a black substance called plumbago, and by the country people "Wad." You, however, would, if you saw it, call it *black-lead;* but this is not a proper name for it, as it does not contain a particle of lead, but consists of charcoal and iron. This plumbago mine is the only one in England. I have heard that at one time it was only opened now and then—perhaps, every two or three years—lest the stock should be consumed; for the *holes* in which it is found are not very large.

Near Borrowdale is a town called KESWICK, where there are large factories for making the plumbago into pencils.

About eighteen miles from Keswick is a large market town called PENRITH. It is on the borders of Westmoreland. Here I stopped for the night; and after I had been to see the town, in which I did not observe anything worth relating, I made the following notes.

I am,
Dear children,
Your affectionate friend,
HENRY YOUNG.

CUMBERLAND (Continued).

(4.) *The capital of Cumberland is* CARLISLE, *an ancient town on the river Eden. It is famous for its old Castle, where Queen Elizabeth imprisoned Mary Queen of Scots. Its walls and fortifications were besieged in* 1645, *during the reign of King Charles Stuart; and again in* 1745, *in the rebellion of Prince Charles Stuart. The manufactures of Carlisle, are cotton, hats, whips, and fish-hooks. It has also a trade in salmon.*

(5). *The other principal towns are* WHITEHAVEN *and* WORKINGTON, *noted for their coal-mines, which extend under the sea.*

BORROWDALE, *a village noted for its mine of plumbago, or black-lead, and* PENRITH, *a large market town.*

KESWICK, *noted for its black-lead pencils.*

(6). *Cumberland is so called from "The Cumbri," a tribe of the Ancient Britons formerly living there.*

FROM day to day we humbly own
The hand that feeds us still;
Give us our bread, and teach to rest
Contented in thy will.

Our sins before thee we confess;
Oh, may they be forgiv'n!
As we to others mercy show,
We mercy beg from heav'n.

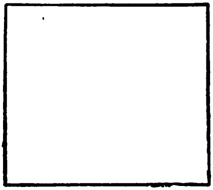
QUADRILATERAL FIGURES.

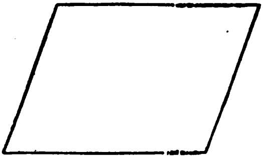
P. Will you let me hear the names of the triangles you have heard of, once more, Ion?

Ion. Yes, papa. We have learned about an

Equilateral Triangle,
Isosceles Triangle,
Scalene Triangle, and
A Right-angled Triangle.

P. To-day we will learn of figures with *four* angles. Here are two different ones, who can describe them?





W. I can, papa. Let me see! The first is—a square.

P. True, Willie—but then, you are not *describing* it. If a blind man were to bring you an animal to describe, and you were to say to him, "It is a dog"—

W. Then he wouldn't be any wiser, he would say, "You are only telling me its name; tell me all about it—what sort of a thing it is!"

P. Then, suppose I am blind—Now, I want you to tell me *what* the square is, not, what it is called.

W. Well, then, the square is a thing—

P. It is not exactly a real *thing,* it is a shape—a figure.

W. Then, the square is a figure with four sides—all of the same size—all equal, I should say. It has four equal sides, and four right angles.

P. Now, what is the next figure?

W. What is it called, papa?

P. Never mind its name—what is it?

W. It is a figure with four equal sides. I can tell that without measuring.

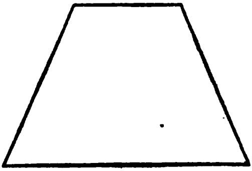
P. And so is a *square.*

W. But I have not finished yet, papa!—It has two acute, and two obtuse angles. That is it!—It is a figure with four equal sides, and two acute, and two obtuse angles.

P. Very good—but, are you sure now that you have described it *exactly?* Have you given me such a description that I cannot mistake it for any other figure?

W. I think so, papa.

P. Perhaps I might think that you were describing this one?



See! It has two acute, and two obtuse angles.

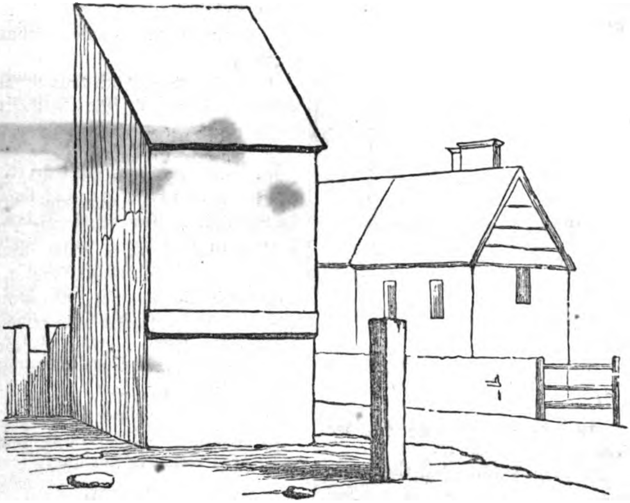
W. Ah, papa—but, it has not *four equal sides.* I think that if you make a figure with four equal sides, and two acute, and two obtuse angles—it *must* be like this one. What is its name, please?

P. It is called *a rhomb.*

W. Now, I will give its description once more. *A figure with four equal sides, and two acute, and two obtuse angles, is called a* RHOMB.

Ion. Or, if you like, you may say—with parallel horizontal sides and parallel oblique sides.

P. To-day, you may sit down and copy the square, and the rhomb. When you have done this with exactness, you can point out the squares and rhombs in this drawing—and then, you may copy it.



Ion. Is not this drawing rather difficult, papa?

P. No. If you will first take pains to draw the square and rhomb properly, you will then find it very easy to join them together, and to make the drawing.

PLEASANT PAGES

FOR THE

11th Week. MONDAY. Moral Lesson.

"Deep rivers move with silence."

Listen!

W. To what, papa?

P. To the waterfall! Do you hear the bustling sound it makes? Let us go up the side of the vale. Now you can see the little rill beneath those shady bushes.

L. I see it, papa! How it sparkles in the gloom—as it runs between the two pieces of rock. And, now watch it, papa, as it makes a broader stream over the gravel! What a singing it makes! And, how it dances about! There it goes—sparkling, singing, and dancing—all down the hill.

P. Now, see how it has grown—another stream has joined it, and it makes *more* noise. See now! Three or four more streams have joined it—and it is beginning to think itself very great and important.

Ion. Yes, and now it forms a waterfall. Hear what a very *bustling* noise it makes, as much as to say, "Make way for me, I'm somebody!"

P. Ah, but if you will come with me six miles further down, you will see how differently it moves—like an old experienced stream. It has been joined by other large streams; and there it forms A RIVER. It has learned on its way that there are many streams as broad and deep as itself, and some, perhaps, broader—so now it makes very little noise about its importance.

Ion. And yet, perhaps, it is a great deep river! Well! rivers *have* a quiet steady way with them—rivers never do seem to make any noise at all.

P. And this is the way, Ion, that men grow up. At first—they are *little boys* like you and Willie, full of play. They love to dance, and sing, and, when they talk with sparkling looks, they make a *merry* noise—like the little rill.

As they grow up and get out into the world, they *see* themselves growing, begin to think of their importance, and say to people, "Listen to me!"—"Make way for me!"—"I am a great somebody!"—So, when they talk, they make a *boasting* noise—just like the waterfall.

But, when they are full grown, when they have mingled with many men—and have gathered a little from one, and a little from another—when their minds are thus *deepened* with thoughts—then they do not talk with a boasting noise. They have learned to be humble and to talk less—so, like deep rivers, they move on with *silence*.

W. Ah, then! when anybody talks very much indeed, I suppose that is because he has not grown up to be a man. But *men* do talk very much, sometimes!

P. No, Willie—if you hear any one always talking very much, you may be sure that he is not a *man* yet. It is very often so—and oh! it is a sad thing, Willie, that many boys, ah! thousands of boys, never become men before they die! They may grow to be tall—they may live on to be 60 or 70 years old—they may have the bodies of men—and the age of men—but they *themselves*—their minds, their souls—never grow enough to become men!

W. Oh, I hope I shall become a man! But do, papa, tell us a tale about some quiet man—a man who was *a deep river!*

P. Well, I remember now a tale which I think will suit you. I read it in some book about twenty years ago—I think it was in "The Visitor." Hearken!

"I understand it! I understand it!" said Jem Timmings, "I can see—*exactly what you want, sir.* It shall be sure to be done!"—So he shut up his two-foot rule, putting it in his pocket. "I quite understand, sir—good day, sir," he said as he shut the gate. And, he walked off hastily like a man who knew what he was about—better than anybody could tell him!

Now, the mischief of it was, that Jem Timmings thought that he understood, not only the business he had then in hand, but everything else too. So, as usual, he had made so much noise and talking, with such impatience and boasting in receiving his orders, that he had not had time to hear properly all that had been said.

Jem Timmings was a carpenter. He had served his time with old Thomas Parkenson, a clever, though an humble man. He had usually passed for a smart young fellow at his business, so long as he followed his master's directions;—but, in nine times out of ten he mistook what had been said. "I tell you what," said old Thomas, one day, "you will never understand anything as long as you make so much noise and talk so much!"

After Jem had served his time, he set up for a master directly. Being always talking very much of what he could do, at first many people resolved to try him — so Jem had been sent for by the churchwarden to make him a pigeon-house; and it was after the interview about it, that he said so confidently—"I understand it! I understand it!"

"Got a job to do for churchwarden—am going to make him a pigeon-house—what do you say to that, man!" he said, as he met one of his companions.

As Jem went along whistling, with his hat on one side of his head, he met with his old master, Parkenson, who also happened to be going to the churchwarden's. He gave him a very familiar nod as he passed. He thought that now *he* had begun to work for the churchwarden, he should soon put poor Parkenson in the background.

The truth was, that the churchwarden had a long job, of a particular description, to give to a carpenter, and was anxious to compare the work of old Parkenson with the work of Jem Timmings, before he decided which man he should employ. For this purpose he had sent for Jem to order a pigeon-house, the form and make of which he particularly described. He sent, too, for Parkenson, to order one of the same description, and was very particular in giving his directions to them both, saying, that if not made exactly to order he would not have it.

Jem Timmings was not five minutes in taking the order—he knew how it was to be done—he understood all about it! Old Parkenson, on the contrary, was very careful in thoroughly comprehending how every part of the pigeon-house was to be completed, and he made a rough drawing before he left the churchwarden, so that he might not forget anything He then went quietly home to work.

Jem Timmings set to work at the pigeon-house, but was not quite certain of the number of holes he had been ordered to make. He was, too, in some doubt whether the pigeon-house had been ordered four feet three inches high, or three feet four; but, being ashamed to ask, he made the pigeon-house at a venture.

Old Parkenson had no doubt at all about the matter; he had taken care to have a clear understanding of every part, and he made his pigeon-house exactly according to the directions he had received.

The two pigeon-houses were sent to the churchwarden's, and as Jem Timmings went there to know if the one he had made gave satisfaction, he overtook old Parkenson. Both of them were surprised when they found out that they were going to the same place, and still more so when they saw two new pigeon-houses standing, side by side, in the churchwarden's yard.

In a little time they were joined by the churchwarden, who pointed out to Jem that the pigeon-house he had sent was a foot too short, and had two pigeon-holes in it more than were ordered. He then showed him the one made by Parkenson, which was in every respect correct, and just the thing he wanted. "I understand it! I understand it!" said Jem, and proposed to rectify his mistake. "No, no," cried the churchwarden, "I wish you to understand that I will never employ a young fellow who is more fond of talking than of listening to the orders of his employers." Jem Timmings slunk away; his ill-made pigeon-house was sent after him; and in two or three days he heard that old Parkenson and his men were busily employed in putting new pews to the parish church.

W. Ah, I see who was the *deep river.* Old Parkenson was! He went to work slowly, and worked in silence.

P. Then you may copy him—although I do not like to see boys and girls like old men and women, yet it is a good thing for them to move with silence, sometimes. Do you remember your last arithmetic lesson?—when I taught all three of you to work questions in "Proportion?"

Ion. Yes, papa. Willie and I, both, made blunders, and could not succeed.

P. And Lucy's work was correct.

Ion. Well! now, I remember how silent Lucy was all the time. She sat down, and listened to every word you said, while Willie and I talked so much—just like two "Jem Timmingses!"

P. Yes, both of you were quite sure that you knew the rule, long before Lucy, who first filled her mind with the thoughts I gave her.

W. Until it was very deep.

P. Yes, and then sat down to work silently.

W. And worked through her sum like a good old woman!

Ion. Or like old Parkenson!

P. Or like a deep river! "DEEP RIVERS MOVE WITH SILENCE."

THE FOUR SUB-KINGDOMS.

L. Mamma, I have been thinking very much about the *three kingdoms* since last Tuesday.

You know you told us, when we talked about the Creation, that God did not make all three parts of the world at the same time. He made the Minerals first, then the Vegetables, and then the Animals; and now, do you know, I think I can see the reason for it—it is because they all depend upon one another!

If the *animals* had been made first, they would have died, because there were no vegetables to eat. If the *vegetables* had been created next, they would have died because there were no minerals to feed upon. And when the *minerals* were made—no! they would not have died—

W. No! but I never thought of that before. Animals feed on vegetables, and vegetables feed on minerals. Here they are, mamma! They are doing it now! Look at this flower-pot of Lucy's, with the China rose on it. The little rose-tree is living on the earth, and these little insects round the buds and stalk, are living on the tree. The mineral gives life to the vegetable, and the vegetable to the animal.

Ion. Yes; what wonderful things are going on in that flower-pot now!—more life is being made there every day. This life seems to be going up from the earth, or somewhere, through the roots, stalk, and different parts of the plant, even to the very smallest part of each little insect. The tree and insects too, all spring up from the earth—the mineral part.

W. Yes; and will go back to the minerals again. The insects will be changed into earth again; because, you know that when animals die, their bodies change into dust; and so do the vegetables change.

Ion. Why, then, the three kingdoms are always changing; they go round and round like one great wheel, I suppose.

M. That is true. I will talk to you of some of the changes which happen. Suppose a *gas* called oxygen were to meet with another gas called hydrogen—these two gases might unite and form water. The *water* might sink into the earth, and become food for some vegetable. The *vegetable* might form food for some animal, say a sheep. The *sheep* might die on a mountain; and, as it decayed, its particles would form earth, water, and gas; and thus go back again to the mineral kingdom.

W. How things do change, mamma! Well, I wonder what I shall be soon. I belong to the animal kingdom now, I'm sure—feel me!

M. Ah! and you belong to the SPIRITUAL KINGDOM, too, Willie! You'll have to go to a kingdom which none of us have seen yet. I hope, Willie, that you are preparing yourself for it; for, mind! you'll never change *there!*

L. You said to us, once, mamma, that whatever we may be when our bodies die, that we shall be *for ever!*

M. Ah, think all of you! It is a solemn thought. Then, you'll *never change!*

L. Now, mamma, that we have learned of these three kingdoms, what are we to do next?

M. We have to take one of them—*the animal kingdom*, and divide it into *sub*-kingdoms; but this we have already done. I think, however, that to-day we will talk about these sub-kingdoms for a little while, before beginning anything else.

You may remember that, in the first Natural History lesson, I said we ought all to notice God's works, because of the beautiful *order* there.

One way in which you may observe order, is when many things are made upon the *same plan*. What a difference of size there is in the Backboned Animals! yet, the greatest and the smallest of them are alike in those things which cause them to be called "backboned animals." Suppose, now, that you could bring together the EMPEROR OF RUSSIA, the smallest MOUSE in his empire, and the EMPEROR OF CHINA; and then make them describe themselves. They would say, "We are all made on the same plan—for we all have a backbone, a spine—we all have four limbs,—we all have red blood—and"—

W. And so "We are all brothers!"

M. No, Willie—they are not brothers, but they should say that they all care for one another. The Emperor of Russia is not too great to care for a mouse, for *the King of kings* cares for it! But, the Emperor of Russia is greater than the mouse, because of his *soul.* And that great difference, perhaps, makes God care for him, or for us, more than for the mouse!

Ion. Then I see another thought, mamma—Man was made last, perhaps because he was God's highest work. First were made *Minerals*—without life;

2nd, *Vegetables*—with life;

3rd, *Animals* (the lower animals)—with life, and consciousness;

4th, *Man*—with life, consciousness, and a soul!

That seems to be a sign of order. I wonder whether the *Angels* were made next. Don't we become angels after we die?

M. Yes; but we will not run away from our subject now. I was saying that in the *first sub-kingdom*—THE BACKBONED ANIMALS—there was order, because animals of different *sizes* were made on the same plan.

If you look again at these animals, you will see how those in widely different *places* are alike. You may bring from one end of the world, an Australian dog—and from the other end, a Seal. You will then find that the Creator has been in these widely distant parts, and has made both animals on the same plan.

Again—if you notice the *second sub-kingdom*, you may find in the earth springs of boiling water, containing *living* caterpillars, and beetles*—or, you may find animals of this sub-kingdom living in the frozen seas of the North Pole. Yet, though you may find them in such different conditions, they all have an external skeleton, six limbs, and white blood, they are all JOINTED ANIMALS, and are made on the same plan.

Look at the *third sub-kingdom!*—Ages, and ages ago, there lived a shell fish called the *Trilobite.* In the present age there lives a shell fish call the *Nautilus.* In these distant ages—with thousands of years between—the eternal Creator *is* here. He made both animals with a soft body, and a mantle, and with the other distinctions of the SOFT-BODIED ANIMALS—both the Nautilus and the Trilobite—at these very different *times*, were made on the same plan.

Look at the *fourth sub-kingdom!* Ages ago there lived animals whose shape was something like that of a lily; they were called *Encrinites.* In the present age, we have a similar animal, called the *Star-fish.* These two are both BRANCHED ANIMALS, and are formed on the same plan.

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* Dr. Carpenter.

How great must that Creator be, who, in animals of the most different *appearances, and size*—in animals living at the most distant *places*—in animals living in the most distant *ages*—at the most wonderful distance of time from each other—in all these animals can observe exactly the same plan. He forms one plan—He "sees that it is good"—and never requires a better one. The Almighty never changes—He is the great unchangeable I AM!

Dear Children!—Learn *to love the book of nature.* There you will learn to know that there *is* a God—to feel that He is "our Father"—and to see and believe the truth he has revealed to us in His word.

From all the works of our Heavenly Father, which are round about you, will you feel that He is omniscient, and omnipotent—that He *knows* all things, and can *do* all things—and that, having this great power, He with more wonderful wisdom and love makes "*all things work together for our good.*"

THE COTTON-TREE AND THE BOOK.

FAIR befal the cotton-tree!
Bravely may it grow,
Bearing in its seeded pod
Cotton, white as snow.

Spin the cotton into thread;
Weave it in the loom;—
Wear it now, thou little child,
In thy happy home!

Thou *hast* worn it, little child,—
Wondrous cotton-tree!
Did this paper—did this book
Spring and grow from thee?

Yes! God's gracious gift of mind
Made the cotton-tree
Speed forth knowledge, peace, and love,
Over land and sea.

And ten thousand cotton-trees
Spring up fresh and fair,
That unwritten thoughts of love
O'er all the world shall bear!

THE SAXON KINGDOM.

ALFRED THE GREAT.

P. You will like to hear about King Alfred. I have many pleasant things to tell you. I said, you may remember, that when he was a little boy, he went with his father to ROME. There the Pope Leo anointed him as future king, just as the prophet Samuel anointed King David.

At Rome he gained much knowledge, but he learned much more when he came back to his mother. I'm sure she was a good mother, for she took very great pains with him. Every day she used to show him one of her prayer-books, and all its beautiful printings. He liked to look at the red and blue and black letters in it; and although it was a Latin book, and one which he could not understand, he soon learned to read it. His mother then gave him some more books, so, he read them all, and became very fond of reading.

He also liked to listen sometimes to some of the men who would come and play harps, and sing songs; just as you like now to sit at the parlour window, and hear the men play the "tink-a-tink things," as Ada calls them.

Ada. And, to give them a penny afterwards.

P. Ah! but the old bards whom Alfred listened to, sung him *fine songs*. He stared at them, and opened his little mouth, and listened long, as he heard them sing about Saxon heroes, and the glories of men who were brave. Soon, he learned to sing those songs himself, and to play the tunes on the harp — and often when he sat down in the evening to sing and play, he thought that he would be a great king too, and that men should one day talk about his glory.

But, when he grew older, he began to think how he should make this glory, and what "a glory" was. Then, as he thought, he found that there was a true glory—very different from the one he could make by fighting. He found out that the glory of killing belonged, not to kings, but to brutes, for, not any man could even fight so much, or get so much of that kind of glory, as a lion. Indeed, do you know that now, when men speak of the glory of the bravest King of England, they only say he was as fierce as the *King of the brutes*—for, he was "Lion-hearted."

W. And a man's *heart* is the best part of him!

P. But Alfred looked up higher; and, from the world above, he found deeper thoughts—He was to be a *King!* Then he tried to know the glory of the *King of kings.*

Do you know what that is?

The glory of the King of kings is to send "PEACE on earth, and goodwill towards men," and to live in the hearts of those who love him, so this is the proper glory for *all* kings.

This, too, was Alfred's glory—to bring peace—to do good to his people—to be praised by those who *loved* him—and such glory, like that of The Eternal One, will last for ever.

Now, hear of what he did. In the year 871, he was made King of England, when he found it to be overrun with Danes, as I told you before. These men were almost masters of the island, and they would not go away unless he could drive them out. It does not seem to me right that he should fight or kill them—but it appeared, then, to be the only thing that he could do. He fought very many battles with them, but greater swarms of Danes came over, until the Saxon people were so frightened, that many of them chose rather to be slaves, than to defend their country. Alfred was therefore obliged to give way.

But, in the midst of all his troubles he never forgot the glory of doing good. I have heard that, one winter, when he and his wife had only a single loaf in their house, a pilgrim knocked at his gate to beg for bread. Alfred then gave the poor man the half of his only loaf, and, turning to his wife, he told her that "God, who could feed five thousand with five loaves, could make that *half* loaf to be sufficient for them."

At length, he was in great danger from the Danes, who wanted to kill him, and he was obliged to hide himself in secret places.

So he put on the dress of a country servant, and engaged himself to a poor farmer to take care of his cows. I dare say you have heard before, how he was told by his mistress to mind some cakes, and was scolded for not cooking them well. His mind was so full of thoughts of his kingdom that he forgot his new duties. He thought of nothing but how he should save his people from the cruel Danes—until he was roused by the farmer's wife, who said that the cakes were spoiled, and that he was a lazy fellow.

Whilst he was thus obliged to hide, news were brought to him that there was hope of defeating the Danes, who had become very careless, because they thought he was dead. Then he dressed himself as a harper, and entering the camp of the Danes, he sang them some songs, and pleased them very much. He saw in the camp, the Danish chief Guthrum. He noticed that he and other chiefs of the Danes spent their nights and days in feasting and drinking, thinking themselves safe from all harm. Then he noticed, and perhaps he counted, all their tents,—and found out which would be the best place to make an attack.

So, one night, he collected all his friends, who made up a large army—they fell on the Danes suddenly—awakened them—astonished them—and defeated them. They killed many, and made the others prisoners, with their great chief, Guthrum. Very soon afterwards, Alfred subdued all the Danes in the island.

He might now have punished them; but, he knew that true glory came not from doing harm, but from doing good. So, instead of leading Guthrum to death, he taught him the way to eternal life. This chief and many other Danes learned about Jesus Christ, and became Christians, whilst the rest were allowed to return to their own country.

Then, Alfred began to make glory for himself by his good deeds to others.

He had enough to do, and was never idle. He knew that *time* was a good thing, so he divided his time very carefully. He gave one part of the day to prayer and study, another part to business, and, another part to exercise, food, and sleep. He wished to be very exact and particular, so, he caused candles to be made, each of which burned a certain number of hours, and thus he kept an account of his time. I have heard, too, that in order to make the candles burn steadily, he invented *lanterns*.

W. That shows that he was very exact.

P. He knew that *learning* was a good thing, and would do the people good, so he advised all the nobles in the land to teach their children to read. He sent to Italy and France for books, he sent vessels, with men to get knowledge from other countries, and made one or two voyages himself. He sent for learned men to teach, and caused many more schools to be built. He began the first college for young men at Oxford, and thus founded what is now called the Oxford University.

He led the people on, and showed them that he was in earnest by his own love of hard work. He translated part of the Testament (the four Gospels) from Latin into English, and studied Grammar, History, Geometry, Architecture, Music, and Poetry.

He knew that *order* was a good thing, and he, therefore, made many good laws. He wished all his people to be properly taken care of, and to be protected from robbery, so he placed guards in all parts of the country, and men like our policemen; and I have heard that he was so strict in making people honest, that if golden bracelets were hung in the highways, no robber would dare to touch them.

He repaired the mischief which the Danes had made. He rebuilt part of London, and many other cities which they had burned. He caused *stone* houses and churches to be built—for, hitherto, they had been made chiefly of wood.

He thought that instead of curing evils it would be better to prevent them, so, he built a fleet of nearly a hundred long ships, as large as those of the Danes, and some much larger. With these he met them on the sea, and kept them away from the land.

In this way, and in many other better ways, he tried to prevent evil, and to do good. He made the people more happy than they had been since the days of the Romans,—so he felt happy, too.

Though he was brave, he was kind, merciful, and gentle. His enemies feared him, his subjects loved him, and all people admired him.

The *greatness* he gave to his kingdom came back to him, and he was called *Alfred the Great*. The *goodness* he showed to his people came back to him, and he was called "The *good* King Alfred." The good which he did has not yet been forgotten, and his glory will last for a long, long while, because he tried to copy the "King of kings," whose glory will last for ever.

A SONNET FOR ANGLO-SAXONS.

Non Angli sed Angeli! this is praise
Higher than mortals may deserve or earn,
And as through lapse of long since vanished days
Our backward glance inquiringly we turn,
How should our hearts with shame within us burn,
To mark how little we have done, to raise
The lofty pile that ages may discern,
With living splendour of Good Deeds ablaze:
Something we've done, but more remains to do,
Far more for us of Anglo-Saxon race;
If to the prompting of our hearts but true,
Who shall contest with us the foremost place,
In the progressive march of human kind?
To TEACH, to BLESS, to CIVILIZE, such is *our* work assigned.

ADAMS'S PEACE LYRICS.

COFFEE *(Continued).*

L. Now, mamma, may we have the *history* of Coffee, please?

M. Yes. A long, long time ago—I don't know when nor where—a *Prior*, who lived in a Monastery, had a message brought to him. The man who took care of the monastery goats, or the *Goatherd*, as they called him, said that the goats *would* browse on a certain plant with red berries—and, that whenever they did so, they wouldn't go to sleep at night, but were disposed to cut capers, and keep late hours.

W. Well, they were "exhilarated!"

M. Now, this Prior had some monks in his monastery, who were too sleepy. They had to get out of bed very early every morning, and come down to repeat their *Matins*, or morning prayers, which, perhaps, they did not understand, so they found that it was very difficult to keep themselves awake. The prior, therefore, tried them with these berries—or, perhaps, the juice of them, for they were *Coffee*-berries; and, it had the effects which we spoke of last week. It stimulated them, and refreshed them—

W. And exhilarated them?

M. Perhaps; but it is not always easy to exhilarate a monk, especially at *matins.* Then the prior took some himself, and liked it—and soon it was "strongly recommended" to the neighbours, until it became the fashionable drink in Mecca, Cairo, Constantinople—throughout Arabia, Egypt, Syria, Turkey, Persia, and all Eastern Countries.

You should see a Turk drink coffee. Sometimes he uses a quarter of a pound in a day. If you asked him whether he'd take milk and sugar, he would tell you "No," but would put in some cloves, or cinnamon, or something else with a nice aromatic flavour. In time, other people found out that coffee was a pleasant thing, and it was drunk in Spain, France, Germany, and various parts of the Continent.

One of the French kings sent for a coffee plant, which he placed in the Royal Gardens, at Paris. There it was carefully nursed, and when it had grown to a tree, it was sent to the French colonies in the *West Indies.* During the long voyage there, the water on board ship became very scarce—and each passenger had a very small portion given him daily. The gentleman who had the charge of the plant, gave it, every day, a part of his little allowance—and thus succeeded in keeping it alive, and in bringing it to his destiny. When it reached the West Indies it there bore fruit and seeds, which in time formed more plants, and led to the cultivation of coffee in those parts. The French people are still very fond of coffee—they make beautiful coffee in Paris.

L. When did they learn to drink it in *England*, mamma?

M. I will tell you. About 200 years ago, it was not known in this country, no one had tasted it here—

Ion. Was that in the year 1650?

M. No. It was two years after then—in the year 1652. A Greek servant, named Pasqua, came to England, and set up in business as a "coffee man," near Cornhill. It became more and more liked in England, and now the English people use *about* 36,000,000 pounds every year.

L. Thank you, mamma. Now may we hear its *natural history*—I mean the history of its nature—how it grows—and so on?

M. In Arabia and Eastern Countries, the coffee trees are allowed to grow to a good height, and the berries are left on the trees until they are ripe—so that they easily fall off when the branches are shaken, and drop on to a mat which is placed underneath. They are then spread out on the mat, to be dried by the heat of the sun. The husk, or dry berry, is afterwards crushed by a stone roller, and the seeds are picked out.

But in the West Indies it is cultivated differently. The trees are grown in large plantations, which are often situated on the hills and high grounds that are not rich enough for the sugar. If any one who has been cultivating sugar for a long time should happen to be in bad health, the change of air to a coffee plantation will often make him better.

These plantations are pleasant to see. The shrubs, which are only allowed to grow to the height of about four feet, have leaves of a bright green colour, something like the leaves of our orange tree in the greenhouse. It has leaves at all times of the year.

L. So, it is called an Evergreen, is it not, mamma?

M. Yes;—and these evergreen shrubs, at the time of blossom, have a beautiful appearance. They are then covered with a brilliant white flower, something like the jasmine. These flowers open in such abundance that the leaves of the trees are completely hidden—and from the distance, appear as white as heaps of snow, at the same time they have a delicious and fragrant smell. The blossoms are followed by the red berries, which look something like small cherries.

When these berries are ripe the negroes come and pick them, and put them in bags which are fastened round their necks. They are next spread out under the hot sun until the soft part, or pulp, ferments;—or, sometimes the pulp is bruised on a mill, and made soft—it is then washed away, and the seeds are dried.

These seeds are packed up in bags or bales, and exported—some of them to England. The grocer who buys them puts them in a close iron box, and roasts them over a slow charcoal fire—then, they swell, and have the qualities which we spoke of last week—they become darker in colour, more crisp, with a bitter, aromatic, and agreeable flavour. There are several ways of roasting it now. If you go to some of the large grocers' shops—you will see some curious engines for roasting, and you will hear of patent roasters, dessicated coffee, and of many strange ways which I do not understand.

W. Do they not mix *Chicory* with coffee, mamma?

M. Yes. A little chicory is said to improve the flavour of coffee, but as it is cheaper than coffee, the "cheap" grocers often mix too much with it, and so spoil it. Many people also spoil their coffee by *boiling* it. The best way to prepare it is by pouring boiling water upon it—for, if it is left long on the fire, the aromatic part of its flavour is driven away, and only the bitter taste remains.

I do not think I can tell you anything else about coffee—

Ion. Please tell us the different sorts of coffee, mamma.

M. You may have seen the names of the different coffees on the large tickets in the grocer's windows. The cheap *Ceylon* coffee is brought from an island at the south of the East Indies—it is imported in bags. A much better coffee is procured from a large West India island, called *Jamaica*—and from part of South America, called *Berbice*. The best coffee is that brought from Arabia, near a town called *Mocha*. Now you may make up the lesson.

L. Thank you, mamma.

Lesson 8. COFFEE.

1. UNROASTED COFFEE SEEDS *are of a dingy yellow colour, inodorous, and disagreeable to the taste.* ROASTED COFFEE SEEDS *are of a rich brown colour, crisp, aromatic, bitter, and pleasant to the taste—whilst in their effects they are stimulating, refreshing, and exhilarating.*

2. *Coffee was first discovered in Eastern countries, where it is said to have grown wild, and to have been eaten by the goats. Its use spread through Arabia, Turkey, and Europe, and it was introduced by the French to the* WEST INDIES.

In 1652, *it was brought into England by a Greek.*

3. *Coffee is the seed found in a little red berry, which grows on an evergreen shrub. The shrubs in Arabia are allowed to grow to a good height, but in the West Indies the mode of cultivation is different. The shrubs are allowed to grow only to the height of about four feet, whilst the berries are picked by the Negroes when they are red.*

The seeds, when sent to England, are roasted and ground before they are fit for use.

4. *The different kinds of Coffee are Ceylon, Jamaica, Berbice, Mocha coffee, &c. &c.*

TIME.

TIME speeds away—away—away:
Another hour—another day—
Another month—another year—
Drop from us like the leaflets sear;
Drop like the life-blood from our hearts,
The rose-bloom from the cheek departs,
The tresses from the temples fall,
The eye grows dim and strange to all.

Time speeds away—away—away,
Like torrent in a stormy day;
He undermines the stately tower,
Uproots the tree, and snaps the flower;
And sweeps from our distracted breast
The friends that loved—the friends that blest:
And leaves us weeping on the shore,
To which they can return no more.

Time speeds away—away—away:
No eagle through the skies of day,
No wind along the hills, can flee
So swiftly or so smooth as he:
Like fiery steed, from stage to stage,
He bears us on from youth to age;
Then plunges in the fearful sea
Of fathomless Eternity.

KNOX.

THE CRUST OF THE EARTH.

FLINT OR SILICA.

P. Tell me, Ion, some earths which contain *lime.*

Ion. Chalk, papa, or Limestone, Spar, Bath Stone, Plaster of Paris, and others. These you said were called *Calcareous* earths.

W. The earths which are like the Argil, or Clay, are Potter's Clay—Pipe Clay—Fuller's Earth, and others.

P. And these, from the Latin word *Argil*, are called *Argillaceous* earths. To-day, here is a flint for you to study. This is another part of the earth's crust—indeed it forms the hard foundation of the crust, and it gives firmness to the mountains.

W. I thought that the mountains must have something inside them harder than lime, or clay—and so must the earth itself—the round ball—or else it would not be strong—it would lose its shape, I think!

P. Yes, the hardness of the flint renders it useful to make a durable foundation for the mountains. This flint consists almost entirely of a very hard substance called *silicon.* Can you remember that word?

L. I can, papa.

P. And there are in the earth's crust other substances besides flint, which consists partly of "Silicon." The piece of *rock crystal* on the mantel-piece came out of the earth,—this piece of *quartz* was found in the mountains. Down very deep in the earth was found this piece of speckled stone.

Ion. This is called *granite*, papa. Waterloo Bridge is made of granite:—and it is used in making roads, when they mac—What do men do to the roads, papa, when they throw down cart-loads of granite, broken into little square pieces?

P. *Mac-adamize* them, you mean.

Ion. That is the word papa,—they use granite to macadamize the roads—and for the curb-stones. Is there any silicon in the pavement stones?

P. Yes, the pavement is made of a *sandstone* which consists of little grains of silicon or sand, cemented together. There are many large rocks made of sandstone.

L. I thought that sand must contain silicon, papa. It is something like little grains of flint,—and are not the great rocks made of silicon—and the little stones too?

P. Yes, rocks consist of silicon—and so do stones. Stones are only small pieces of rock; you shall hear their history one day. Now, all these hard substances containing silicon—such as flint, rock crystal, quartz, granite, sandstone, and sand, are called *siliceous earths.*

W. So there are three kinds of earths. I will say them once more—

Earths composed of *lime*, are called CALCAREOUS EARTHS.

Earths composed of *clay*, are called ARGILLACEOUS EARTHS.

Earths composed of *flint*, are called SILICEOUS EARTHS.

P. Now, let us sit down and study this flint—we will find out its qualities, and uses.

L. I will begin, papa. First, It is *very* hard—so hard that if you strike it against a steel, it will "strike fire."

W. And, so hard that it will scratch glass.

P. Yes—it is the flint (or silicon) which gives hardness to glass. Glass is made principally of *silicon.* If you mix sand with an alkali called soda—or with potash, and put it in a fierce fire, it will melt.

W. So it is *fusible.*

P. Yes, and when these two substances are melted and mixed together they form glass. Now, the Latin word for glass is *vitrum*, so, as flint has a quality which forms glass, it is said to be "vitrifiable."

W. Then we may say, papa—"It is fusible, and *therefore* it is vitrifiable," that will make three qualities.

Ion. I wonder whether it has any smell like clay. It does not smell at all, so it is *in*odorous;—and then, it has no taste, so it is *tasteless.*

W. It is nearly *black*, that is another quality—and, it looks opaque. But if you take a thin piece of flint—and look at the edge of it, it seems *transpare*[illegible]

L. And I can tell you something else. Although it is so hard, you may grind it to a fine powder.

P. Tell me some other substances besides the flint which may be ground into a powder.

L. Coffee, papa, and lump sugar—glass, tea, salt, corn, chalk, peppermint drops, and so on — all those things may be ground into a powder.

P. Whenever you find a substance which, like these, may be formed into a powder, you may say it is *pulverable.*

W. Not *all* things are pulverable, though. *Butter* is not; nor *Indian rubber;* nor *lead.* I never saw any powdered lead. Now, may I count up the flint's qualities?

1st, This Flint is so *hard* that it will strike fire, and scratch glass.

2nd, It is *fusible*—and therefore,

3rd, It is *vitrifiable.*

4th, It is *inodorous*, and *tasteless.*

5th, It looks black and opaque, but at the edges it is transparent.

6th, It is pulverable — and, I think we know many of its **uses** already, papa.

1st, It forms the foundation of the mountains, because it is so very *hard.*

2nd, It is used for gun-flints—because it can strike fire.

3rd, It is used to make glass—because it is *hard* and *fusible* (so it is called *vitrifiable*).

P. And, 4th, It may also be ground very fine, mixed into a paste, and used for making porcelain or china.

L. That is because it is *pulverable.* Has it any use because it is found in little grains of sand?

P. Yes, sand is very useful. The *brickmakers* could not make good bricks unless they mixed sand with their clay. The *bricklayers* require sand for their mortar. The *farmer* mixes sand with stiff earth that it may be more porous, and that the water may filter through. Sand has many other uses. Now, we will make up the lesson.

Lesson 5. Flint or Silica.

(1.) Flint *(sometimes called silica from the Latin word silex) consists almost entirely of a very hard substance called silicon*

This silicon forms the rocks that are the foundation of the mountains, and of the crust of the earth. It is also found in rock crystal—quartz—granite—pebbles—and sand. These substances are therefore called siliceous earths.

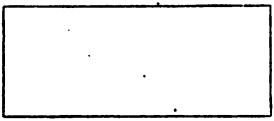
(2.) *Flint is hard, fusible, and therefore vitrifiable.—It is inodorous, tasteless, transparent at its edges, and pulverable.*

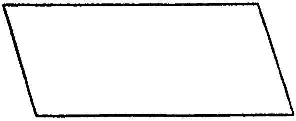
(3.) *Flints, and other siliceous earths, are used to make glass, gun-flints, porcelain—they are useful in making bricks, mortar, manure for the soil—curbstones, pavements, bridges—and for macadamizing the roads.*

QUADRILATERAL FIGURES *(Continued)*.

W. Please, papa, the last drawing was rather difficult. We should like an easier one to-day.

P. Ah, very well! but we will first take notice of these two figures.





Ion. One is a long Square—and the other is a long Rhomb.

P. But there cannot be such a thing as a *long* square. A square is a square; and if you increase its length it ceases to be a square. So if you make a rhomb longer, it becomes something else. Now, try and *describe* these figures, and then I will give you their names.

L. I notice, papa, in the first one that it has a pair of *long* sides, which are of equal length, and a pair of *short* sides, which are alike in size. So, instead of saying that it has four equal sides, we must say that it has *two pair* of equal sides.

Ion. Yes, and it has four right angles—just as a square has.

P. It is called A RECTANGLE.

L. Then I will say—*A figure with two pair of equal sides, and four right angles, is called a* RECTANGLE.

W. Then the next figure has two pair of equal sides, but it has no right angles in it. I'll tell you what you may say. It has *two pair of equal angles;* because, there is a pair of acute angles, which are equal, and a pair of obtuse angles, which are equal also.

P. This figure has a rather long name—it is as long as its shape. It is called a *Parallelogram.* Now, try and remember that!

L. I'll write it down, with its "description." *A figure with two pair of equal sides, and two pair of equal angles, is called a* PARALLELOGRAM.

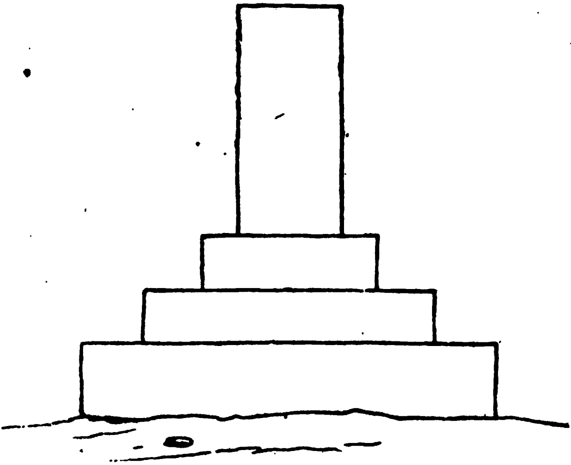
P. You may now draw the rectangle and parallelogram; and when you have done them correctly, here are two drawings, very easy ones, for you to copy. See how many four-sided figures you can discover in the second one.

L. I will examine it, papa. It has one *square*, one *rhomb*, three *rectangles*, and two *parallelograms.*

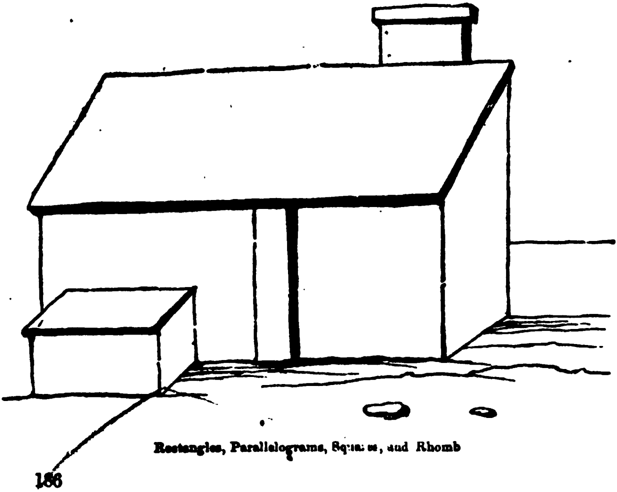
W. And the side of the large shed makes another *parallelogram.*

L. I think not, Willie, because one pair of its sides are not *equal*—the top line is longer than the bottom one.

Ion. And, in a different *direction;* so that is a—a something else.



Rectangles.



Rectangles, Parallelograms, Squares, and Rhomb

"*Empty vessels make the most sound.*"

P. Here is another proverb for you,—"Empty vessels make the most sound."

L. Then, papa, they are like the little brooks which have not much water in them, and make much noise.

P. Yes. Hearken to the tale of a boy who was an empty vessel.

"There's a ring at the bell, mamma! It's the coach, I think. No; there! it is only the carrier's cart."

Master Edward Gratetalk,
The Rosary,
CLAPTON.

"Is this right, mum?" said the man, as he brought in a trunk, and a carpet bag. "1s. 6d. to pay."

A few minutes after, Emily and her little sister were sitting by the road-side, looking out for the coach, which was to bring home their brother from school.

It was getting rather late, and they wished he would come, for they had a great deal to say to him before going to bed that evening. The last swallow had bid them good night; so they watched the red light of the sun on the house, and the dazzling rays which flashed back from the glass. They had been looking, a little while, at the gnats, who were quite at ease, now the swallows were gone, and in their delight at the good glowing sun, were dancing up and down like *wild* gnats, half mad. They had been catching the quiet may-bugs, who were out on a trip—they had been trying to catch the *bats*, but they couldn't do that!

They had been listening to the geese on the common, who were singing their vesper hymn; and the ass, who had been rolling in the dust, and then "joining in" with their chant. They had listened to the wheels of what had proved to be a cart—to the wheels of an omnibus—to the wheels of a van—but now, they heard a rumble again, and through the dusky light, they spied at the top of the hill, the heads of two horses—the heads of four horses—the head of a coachman—of some passengers—the legs of four horses—and then, four red wheels, which they knew belonged to the Cheshunt Coach.

So, when their brother came, they dragged him out of the coach, and each taking one of his hands, they dragged him into the house, and hugged him, and danced round him, like pleased, and proper sisters.

"How brown you look! and how you have grown!" said his little sister Jane, after they had had tea; "and what great hands he has, mamma! Please let us go in the garden, I have so many things to show him."

"Look here, Edward!" said his little sister, "this is our doggie *Mike!* he is a new dog."

"Yes, he is a most *glorious* dog!" said Edward.

Little Jane looked as though she

had never known that before; she did not understand how Mike could be glorious, but supposed that it was a very good thing.

"And come," said Carry, "to see the gold fish in the pond."

"They are most *splendacious!*" said Edward.

"And come to the bottom of the lawn, and see the bees! Here is a glass hive; you cannot see them very well to-night, because it is their bed-time."

"Ah! bees are jolly fellows," said Edward; "don't they make *loads* of honey?"

"Why they haven't made a cart-load," said Emma, "if you mean a cart load; but, what is *jolly*, Edward?"

Ed. Why "jolly?" that is an expression! I mean, that they are fond of a lark, you know—they fly about for a game. Let us go and see our gardens—I wonder how my roses get on.

"Yes, we will," said Emma; "we have kept your garden in order. Here it is, with our gardens on each side of it. Here is a beautiful bell-flower! We don't know what it is called."

"That," said Edward, "is *The Campanula rotundifolia.*"

"Look at this fine foxglove, Edward!"

Ed. That is *The Digitalis purpurea.*

"And see how tall my hollyhock is growing!"

Ed. That is the *Alcea Rosea.*

"The *what?* Edward—*we* always call it a hollyhock, and papa does. Oh, Edward! I see you are making fun at us."

Ed. No, I am not; these are the *scientific* names—they are Latin. Ah, you haven't learned Latin yet—so, it will be a long time before you know them.

The children had been promised that to-night they should sit up with their papa, and they then went in to supper.

"Well, Edward," said his papa, "I am very glad to see that you are looking so well and strong. You are eleven years old now—and I am sure, that, as you have been learning so much at school, you'll be very glad to teach your sisters in the holidays. Teach them as much as you can."

"Oh, papa," said Emily, "he has taught us two or three things, already. He says that our pretty bell-flower is a *Campanula rotundifolia*—that the hollyhock is an *Alcea*—something, and that these are Latin words."

"And the fishes," said little Jane, "they are 'splendacious.'"

"*What* are they?" said papa, looking rather unpleasant.

"Oh! I said that they were *splendacious,*" said Edward, colouring a little. "Jane does not understand—she thinks it is Latin—It is only an expression of mine."

"But, Edward," answered his papa, "that is not the sort of teaching I want for your sisters. I should like you to teach them *sense,* not sounds. There is no great credit in knowing even the Latin names for the flowers; they are only *words,* and are no better than English words, for a magpie could learn them all. I would rather that you should have learned something of the *nature* of the flowers, so that you might think about them, which a magpie could not do. Perhaps, your sisters might help you to do this.

"But then, Edward, as for the other words! You called our fishes splendacious — and your mamma heard you calling the bees *jolly*—and the dog *glorious*. Even Mike himself, if he could understand, would feel uncomfortable at such a name, for he would know that it is without sense. You may be sure, therefore, although you think such words have a fine sound—that they are not fine, but foolish. Such words are very easy to say—but only ignorant boys whose minds are empty, will use them.

"I hope, Edward, that your mind is not empty, and that it is filled with something more than sounds. Will you let me hear what you have been learning at school?"

"Yes, papa," said Edward, gladly, for he wanted to show that he knew something more than names, so he began—

"My name is Norval; on the Grampian hills, my father feeds his flock."

He repeated this piece to his papa, with a great deal of action—sometimes looking very fierce—sometimes very modest—speaking with a loud voice—and again, very softly. So, his sisters thought that he did it very well.

He then repeated another piece, beginning—

"Most potent, grave, and reverend signiors!"

"Well, Edward," said his father, "you have *repeated* these very well; but I am not so anxious for you to talk as to think. You remind me of a man whom I should like you to hear about.

"A missionary, who was living amongst the North American Indians, had a servant, who liked to make fine speeches.

"One day, passing through the woods, he heard a strange noise, and the noise of men clapping their hands, like people at a public meeting. On looking he saw his servant standing on a mound, surrounded by Indians. Although the man did not understand their language, he was making a bawling sound, like the noise of a 'great speech.' The Indians were listening with attention; they did not doubt for a moment that they were hearing their own language, but they said that his style of speaking was too great for their understanding.

"The servant had not an idea to give them, for his head was empty—so the Indians went away with empty heads also. Not a word of sense had been spoken, they had only heard a loud sound.

"It is so with other people, Edward. Those who have thoughts, which are very little, often say them in voices which are very loud, to give them importance—it generally happens that the men who talk much think little.

"If you were to strike a number of casks with a stick, and one made a hollow sounding noise, you would at once know it to be empty. So, from *your* fondness for

foolish names with a fine sound,
Latin names with a fine sound,
and 'speeches' with a fine sound,

I am afraid that when I examine you to-morrow, I shall find that your mind has not many ideas—I *hope* that it is not empty—but this proverb always has been and always will be true, that '**EMPTY VESSELS MAKE THE MOST SOUND.**'"

THE BONES OF ANIMALS.

M. How do you know a Vertebrated Animal, Ion?

Ion. Because it has (1.) an internal skeleton made of bones.

(2.) Four limbs.

(3.) Red blood.

M. That is correct, Ion. We have now learned to arrange the works of nature into three *kingdoms*,—and, to arrange one of these kingdoms (the animal kingdom) into four *sub-kingdoms.* We ought to take one of these sub-kingdoms, and arrange it into—

Ion. Sub sub-kingdoms, I suppose.

M. Yes; or classes, we generally call them. But, before doing so, we must stop a little to talk about the framework, and limbs, and blood of vertebrated animals.

Ion. Do, mamma! I should like to know something about my bones.

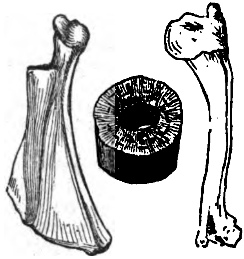
W. But, mamma! will it not take us a long time? I want to get on a little faster—because, I want to hear of the curious animals all over the world. I want to know about their shapes and colours—the places they live in—*how* they live—and some of the curious things they do. Oh, I shall be so glad when we learn about *Kangaroos!*

M. Very good, Willie,—but, you may go on too fast. I should like for you—and, indeed, for all other children—to *know the names of every bone in your body;* and not only the names but the nature of these bones—and their uses. However, I shall only stop now to teach you all that you *must* know in order to understand your natural history properly.

W. Then, I am a vertebrated animal, mamma,—will you talk about *my* framework, please? I have ever so many bones in me—plenty.

M. Very well, Willie. During the last three evenings, your papa—after you have been in bed—has been busy in making a *drawing* of your framework. It is very nearly finished, and you shall see it next week, when we shall require it for our lesson.

Before noticing the *whole* of your framework—we shall, to-day, learn something of the *nature* of bones.



Here are two bones from a shoulder of mutton—and a piece of bone from a leg of beef, which I have been soaking in muriatic acid and water. I will put this one in the microscope, and you shall examine it—now, look!

L. I see it, mamma—How *much* larger it is! It seems to be made up of long fibres like the stalk of a plant.

M. That is true. Now, instead of laying it down on its side, I will place it for you with the end upwards.

L. Now it has a curious appearance, mamma. There seem to be holes between the fibres, something like the holes in a piece of cane, when you cut it—only they are not quite so round. How the fibres are woven together—like a piece of network! But, mamma, I thought that our bones were solid—I should think that if they are formed with so many pores as there are in this, they cannot be very strong.

M. No; they would not be—but the bone was not so until I soaked it in muriatic acid; those "holes" were *filled up* with another substance,—an earth.

Bones consist of *two* substances—an animal substance called *cartilage*, and a mineral substance, or *earth*.

W. Yes, mamma. Papa taught us about the earth, *lime*. He said that it formed part of our bones—but it is not *pure* lime, I suppose!

M. No; the lime is united with an *acid* which you have not yet heard of, called *phosphoric acid*. The other lime-earths were, you may remember, called, "carbonate of lime," "sulphate of lime," and "fluate of lime"*—so, this one in our bones is called *phosphate of lime*. When I soaked this piece of bone in the weak muriatic acid the phosphate of lime between the fibres was destroyed—and only the cartilage remained.

Do you think, now, that you can tell me why God should have used *two* substances for our bones? What is the use of the mineral substance?

Ion. I think it is to give *firmness* to our bones—if they were all cartilage they would bend.

M. And why should the *fibres* be made of animal substance—of cartilage?

W. I think I know, mamma. To give the bones *toughness*, or else they would be too hard—they would be brittle. So, we will say, "The animal part gives *toughness*, and the mineral part gives *firmness*."

If our bones were *all cartilage*, they would bend and not hold up our bodies properly—and, if they were *all earth*, they would snap very often.

M. That is right—and I should tell you that very little earthy matter can be found in the bones of young animals. The baby's bones are very soft—and are nearly all cartilage or gristle. Babies often fall down, and get very hard blows, but you seldom hear of their bones breaking. As the baby gets older his bones will contain more earth, and become rather hard, like yours—and if he should grow up to be as old as your papa, they will be harder, and more brittle still.

In the bones of old people the cartilage wears away; their bones then contain too much lime, and become very brittle indeed. When an old man falls down, how easily his bones break!

L. Yes; but old men take a great deal more care of themselves than babies, and do not tumble about so much. You seldom see an old man fall down.

W. But, mamma, what is the use of our bones being hollow—would they not be stronger if they were solid?

M. No; the hollowness of bones really gives them strength—and, at the same time, renders them much lighter. How heavy your legs would feel, and, how soon you would be tired when you went out for a long walk, if you had *solid* bones. Depend upon it, whatever God makes is sure to be made in the best possible way.

L. Mamma! I have been looking in the microscope and have been noticing how straight the fibres of the bones are—they all lie parallel to each other, like the fibres of a stalk.

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* Physical Geography Lesson, page 77.

M. But it is only so with the long bones of your body. You have other bones—broad *flat* bones, such as the bones of your Skull, in these the fibres are *radiated* (you know what that word means—they are like the spokes of a wheel) You have also, in your spine and other parts, short *square* bones—in these the fibres lie irregularly.

Now, let us make up the lesson.

Lesson 7. ON BONES.

(1.) *The internal framework of Vertebrated Animals is made of* BONES,—*which, in order to support our bodies, must be firm, strong, tough, and able to bear pressing, pulling, and twisting, without being easily broken.*

(2.) *These bones, therefore, consist of two parts—the fibres made of an animal substance, called cartilage—and a mineral substance, called phosphate of lime.*

The mineral substance gives them firmness to support the weight of our bodies; and—

The animal substance gives them toughness, that they may not be too brittle.

Some of our bones are hollow, and are thus rendered stronger, and lighter.

(3.) *We have three sorts of bones. Long bones, with parallel fibres, flat bones, with radiated fibres, and square short bones, with irregular fibres.*

LIFE COMPARED TO A RIVER.

RIVER, River, little River,
Bright you sparkle on your way,
O'er the yellow pebbles dancing,
Through the flowers and foliage glancing,
Like a child at play.

River, River, swelling River,
On you rush o'er rough and smooth,
Louder, faster, brawling, leaping
Over rocks, by rose-banks sweeping
Like impetuous youth.

River, River, brimming River
Broad and deep, and *still* as Time;
Seeming *still*, yet still in motion
Tending onward to the ocean,
Just like mortal prime.

River, River, rapid River!
Swifter now you slip away;
Swift and silent as an arrow;
Through a channel dark and narrow,
Like life's closing day.

River, River, headlong River,
Down you dash into the sea;
Sea, that line hath never sounded,
Sea, that voyage hath never rounded,
Like eternity.—ANON.

THE SAXON KINGDOM.

EDWARD, ATHELSTANE, AND EDMUND.

L. Last week you heard of ALFRED. Well! King Alfred died,—as all kings do. This was in the year 900.

There is not very much worth noticing in the other Saxon kings; but I will tell you one fact about each of them, in order that you may be able to remember their names.

EDWARD.

The next king after Alfred was his son EDWARD.

Edward was a rather useful king, because he tried to *prevent* war. He was a very brave soldier, and accustomed to battles; for in the beginning of his father's reign, he had helped him in driving away the Danes. So, when the Danes came again, thinking that now Alfred was dead they could easily conquer, they found themselves mistaken.

Edward's good sister helped him to govern the kingdom whilst he met the Danes,—sometimes on the water, in ships; sometimes on the land; and everywhere he defeated them. Then, as he thought it would be best to protect the people, so that the Danes might not easily get at them, or kill them, he built walls round more of the cities, and made more strong castles in those parts of the country where they were wanted. The cities of Chester, Warwick, Colchester, Huntingdon, and many others, were fortified by him; and castles were built in Lincoln, Buckingham, and other parts.

The people were very sorry when he died, being afraid that, now he was gone, the Danes would come again.

ATHELSTANE.

However, the next king, Athelstane, was even a better man than his father. Some people said that he was quite as good as Alfred.

Athelstane took great care of the ships of England, and so improved them that he easily kept off the Danes. Then, as he knew that ships were useful for something else besides war, he encouraged the merchants, and others, who had money, to go in ships to foreign countries and buy silk, cloth, wine, and other things, and bring them home to sell. He, therefore, made a law that *every man who built a ship, and made three voyages on his own account, should become a* THANE, *or* NOBLEMAN,—which means, as you may read in "Little Arthur's History of England," that he should be called Lord, instead of Mister, when he was spoken to.

It appears, however, that he was obliged to fight sometimes. The Welsh people would not obey him, but fought with those English who lived near to them. So Athelstane marched against them, defeated them, and took their King HOWEL prisoner. Then, instead of killing him, as the poor king expected, he gave him his liberty and his kingdom again—for he said *that it was more glorious to make a king than to dethrone one.* So you see that, like Alfred, he knew that "glory" could only come from doing good.

There is also a good story about Athelstane, to be found in "Little Arthur's History of England." It is well worth hearing, so listen to it carefully.

STORY OF KING ATHELSTANE.

"Once I was reading a very old book, and I found something in it about this Athelstane that I will tell you. A king of the Danes, and three other kings, who all lived in very cold poor countries, agreed that they would come to England, and take part of it for themselves. So they got a great many soldiers to come with them in ships; and then landed, and began to take a part of the country. But Athelstane soon heard of their coming, and went to meet these kings at a place called Brunanburgh, and fought with them, and conquered them, and took some of them prisoners.

"One of the prisoners was called Egill, and he told the man who wrote the old book I mentioned to you, that King Athelstane behaved very kindly to all the people after the battle, and would not let even the enemies that were beaten be killed, or vexed in any manner; and that he invited him and some of the other prisoners to supper, at a large house which he had near the place where the battle was fought.

"When they went to supper, they found that the house was very long and very broad, but not high, for it had no rooms up stairs, and there was no fire anywhere but in the kitchen and the great hall.

"In the other rooms they had no carpets, but the floors were strewed over with rushes, and there were only wooden benches and high stools to sit upon.

"The supper was in the great hall. I do not know what they had to eat, but after supper the king asked the company to go and sit round the fire, and drink ale and mead. Now, they had no fire-place, like ours, at the side of the hall; but there was a great stone hearth in the very middle of the floor, and a large fire was made on it, of logs of wood, bigger than one man could lift, and there was no chimney, but the smoke went out at a hole in the roof of the hall.

"When the company came to the fire, King Athelstane made King Egill sit on a high stool face to face with him, and King Athelstane had a very long and broad sword, and he laid it across his knees, that if any of the company behaved ill, he might punish them. And they all drank a great deal of ale, and while they drank there were several harpers, called minstrels, singing to them about the great battles they had fought, and the great men who were dead; and the kings sang in their turn, and so they passed the evening very pleasantly.

"The next morning, when Egill and his friends expected to be sent to prison, King Athelstane went to them, and told them he liked such brave and clever men as they were, and that if they would promise not to come to England to plague the people any more, they might go home. They promised they would not come any more, and then Athelstane let them go home, and gave them some handsome presents."

EDMUND.

When Athelstane died, there was another king called **Edmund.** This king, when he had reigned nearly six years, was stabbed by a wicked robber called Leolf, in the year 946.

SUMMER-WOODS.

COME ye into the summer-woods;
There entereth no annoy;
All greenly wave the chestnut leaves,
And the earth is full of joy.

I cannot tell you half the sights
Of beauty you may see,
The bursts of golden sunshine,
And many a shady tree.

There, lightly swung, in bowery glades,
The honeysuckles twine;
There blooms the rose-red campion,
And the dark-blue columbine.

There grows the four-leaved plant "true-love,"
In some dusk woodland spot;
There grows the enchanter's night-shade,
And the wood forget-me-not.

And many a merry bird is there,
Unscared by lawless men;
The blue-winged jay, the wood-pecker,
And the golden-crested wren.

Come down, and ye shall see them all,
The timid and the bold;
For their sweet life of pleasantness,
It is not to be told.

I've seen the freakish squirrels drop
Down from their leafy tree,
The little squirrels with the old,—
Great joy it was to me!

And far within that summer-wood,
Among the leaves so green,
There flows a little gurgling brook,
The brightest e'er was seen.

There come the little gentle birds,
Without a fear of ill,
Down to the murmuring water's edge,
And freely drink their fill!

And dash about and splash about,
The merry little things;
And look askance with bright black eyes,
And flirt their dripping wings.

The nodding plants they bowed their heads,
As if, in heartsome cheer,
They spake unto those little things,
"'Tis merry living here!"

Oh, how my heart ran o'er with joy!
I saw that all was good,
And how we might glean up delight
All round us, if we would!

MARY HOWITT.

COCOA.

M. We talked last week about the Coffee.

Ada. And to-day, mamma, you are to tell us about papa's Cocoa. Why does he not drink coffee, as you do?

M. Because he is under *Homœopathic* treatment.

W. Pray what is that, mamma? —is it good treatment?

M. Well, never mind now. You had better ask papa. Tell me what *Cocoa* is.

Ion. I have read, mamma, that it is the seed of a tree, but I don't know where it grows.

M. You know where *South America* is. You had better fetch the map, I think, then we shall see its place more clearly. If you were to go there, particularly in those parts which belong to the Spaniards, you would see some large cocoa plantations.

Ada. What *are* "plantations," mamma?

M. A plantation means a place where trees are *planted.* Tell me some trees that grow in plantations?

L. Coffee grows in plantations, mamma — they *plant* the coffee-trees. The sugar-canes and tea-trees, too, are planted.

W. *Corn* is not grown in plantations, but in the fields.

Ion. Apples and other fruits are grown in orchards; but, the vegetables we have for dinner, most of those are grown in gardens, kitchen-gardens, by the market-gardener—so that

Vegetables and flowers grow in gardens.
Most fruits grow in orchards.
Corn and oats grow in fields.
Coffee, tea, sugar, and cocoa, grow in plantations.

M. Cocoa plantations are found not only in South America, but in the West Indies. In one of the West India islands, called GRENADA, the plantations are pleasantly situated amongst the mountains. Thus, there is always cool shade for the Negroes to work in.

The trees, which are twenty feet high, about four times as tall as papa, are arranged in rows, forming what are called "cocoa walks." When the young leaves come out they are of a pale red colour, and as they get older they become green. Then you will see numbers of small flowers springing from the thick branches of the trees—they are of a light red colour, mixed with yellow.

When the flowers have dropped off, they are followed by small pods of an oval shape, like an egg. These pods, when they have grown to their full size, and are green, are very nice. They contain the unripe seeds, and a beautiful white pulp, which is sweet and cooling to the taste. Very often the poor blackamoor travellers, when they feel hot and weary, stop to pick a few pods, and refresh themselves by eating their pulp. So excellent and good is this pulp, that the great botanist, Linnæus, gave to the cocoa-tree a name which means "food for a god."

These trees were so valuable at one time, that in a West India island called Trinidad, when people were so foolish and wicked as to keep slaves, there was a law, that if a slave planted one thousand cocoa-trees, and could make them all bear fruit, he could claim his liberty from his master — or his *manumission*, as it was called.

have heard, too, that the cocoa-seeds were, a long time ago, used as *money* in America.

I can tell you another curious thing about this tree, although I am not quite sure whether it is correct. It is said, that in order for it to grow well, it must be under the shade of the coral-tree, a tree with fine bright scarlet blossoms. The Spaniards, I know, call the coral-tree "the mother of the cocoa."

When the pods on the cocoa-tree have turned yellow, or a brownish red colour, they are ready for picking. This is done twice a-year—in December and June.

On opening one of these pods, you would see three rows of long seeds, lying parallel to each other, and close together—as closely as *peas* are packed in their pods. You may remember the history of coffee, and the way in which the Negroes prepare it. They have almost the same plan in preparing the cocoa. The pods are dried in the sun, or in hot clay, until the husks are crisp, and can easily be broken off.

If the seeds, which are called "nibs," are to be made into *cocoa*, they are ground into a powder; but, if they are to be made into *chocolate*, they are formed into a thick paste.

L. Where is the cocoa sent to, mamma?

M. Some is exported to England; some to France. The French make many different drinks from it; but the largest quantity is consumed in Spain. The Spaniards have always been famous for *eating* as well as drinking chocolate. I have brought you, from the grocer's, two or three of the seeds, or rather the cocoa *nibs*. Which of you would like to examine one, and give me its description?*

L. I should, mamma, if I may. I notice, 1st, That it is of a long oval shape. 2ndly, It has a rich deep brown colour. 3rdly—thirdly——

W. I'll give you a "thirdly"—*feel* it!—it feels rather oily and greasy.

Ion. Just try and break it, Lucy, and see if it is brittle.

L. It does break easily, but not with very *sharp edges*, like a brittle substance.

Ion. Yet it is not *friable*, because it *does not crumble*.

L. These pieces are not crumbs, certainly. No, the proper word to use is "crisp"—it is *crisp*.

W. Let me taste it, Lucy, please. Well, I should call such a taste *peculiar*. It has

not a *saline* flavour,
not a *bitter* flavour,
not a *sour* flavour,
not a *sweet* flavour. Its taste is *oily*, rather *bitter*, rather *sweet*, and it has an *aromatic* flavour—all four flavours mixed together. We had better say that it has a *rich* taste.

Ion. And it has a smell—so it is *odorous*. Then we will say that it is of a long oval shape, reddish brown colour, oily, crisp, odorous, and with a rich taste.

Now let us make the lesson.

Lesson 9. COCOA.

(1.) *Cocoa nibs are the seed of a tree growing in* SOUTH AMERICA *and the* WEST INDIES, *where the*

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* It would be well for the children who read *Pleasant Pages* to be supplied with the different objects which form the subjects of the lessons, in order that they themselves may exercise their observation. Every child should form a collection, and keep an "object box."

sugar and coffee grow. They are of a long, oval shape, reddish brown colour, oily, crisp, odorous, and with a rich taste.

(2.) *The trees are cultivated in plantations, where they form long rows called cocoa walks.*

The pods which contain the seeds are nearly of an oval shape. When they are green, they contain not only the unripe seeds, but a pulp which is so sweet and refreshing that it is of great service to travellers, and has been called "the food for a God."

These seed pods, when ripe, are picked, prepared almost in the same way as the coffee-berries, and exported to other countries.

A GARLAND OF SPRING FLOWERS.

A GARLAND! a garland!
Of blossoms fresh and fair;
A garland! a garland!
We twine for Spring to wear.
We'll pluck the flow'rets waking,
And bursting into birth,
While she her way is taking,
O'er the reviving earth.

The snowdrop! the snowdrop!
The foremost of the train;
The snowdrop! the snowdrop!
Whose lustre bears no stain.
In modest beauty peerless,
It shows its little bell,
Thro' frost and snow so cheerless,
Of sunny days to tell.

The crocus! the crocus!
Unheeding wind or rain;
The crocus! the crocus!
Comes peeping up again.
In purple, white, or yellow,
So charming to the sight,
We scarce can find its fellow,
For colours pure and bright.

The daisy! the daisy!
Spread wide o'er hill and dale;
The daisy! the daisy!
No season knows to fail.
Tho' bitter blasts are blowing,
Its lovely buds unfold,
A crown of silver showing,
And breast of yellow gold.

The violet! the violet!
From shelter'd mossy bed;
The violet! the violet!
Just lifts its purple head.
Beneath the hedgerow hiding,
Where wither'd leaves are cast,
It cares not for the chiding
Of March's angry blast.

The primrose! the primrose!
Beneath the ancient trees;
The primrose! the primrose!
Seeks shelter from the breeze.
Or where the streamlet dances,
'Mid rocky banks and steep,
To catch the sun's first glances,
Its early flow'rets peep.

The cowslip! the cowslip!
With leaves so fresh and green!
The cowslip! the cowslip!
With speckled bells is seen.
Its bold and hardy flowers
Shoot up among the grass;
Nor fear the driving showers,
That o'er the meadows pass.

A garland! a garland!
Of blossoms rich and fair;
A garland! a garland!
We'll bind for Spring to wear.
With butter cups entwining,
The blue-bells shall be there,
With hawthorn's bloom combining,
And lilies white and fair.

TRAINING-SCHOOL SONG-BOOK.

THE TRAVELLER THROUGH ENGLAND.

THE WESTMORELAND LAKES—ULLSWATER.

W. I see, papa, that Mr. Young has arranged his "Notes" just as we arranged our lesson on Northumberland. He has written about the shape first;—then the boundaries—the soil—surface, and so on. That is very curious!

P. I can explain it to you. I sent him our Northumberland lesson—and he sent word that he would in future arrange the particulars in the same order. Here is his next letter.

My dear Children,—

I had no intention to remain at Penrith,—so when I went to see Peg and bid her good night, I whispered to her—"To-morrow morning, old goody, at five o'clock, we will be off to the *lakes*—so sleep soundly."

We did not, next morning, start until six o'clock, but then—when Peg sniffed the fresh dampness of the morning breeze, how briskly she trotted along! We turned off to our right, as we left the town, and took the road to *Ullswater*. I watched the pale white sun which had risen in a dripping mist from behind the hills—the streaks of purple and rosy clouds,—the colours glistening in the dew, which sparkled on the yellow heath—the early busy bees, and the soaring lark—then, by the time the mist of the rising dew had cleared off, and the sun had begun to warm us, we had reached the end of our journey—about 7 or 8 miles, and looked down upon the clear bright lake of Ullswater.

"This is enchanting!" said I to Peg; but I never saw a horse so indifferent to natural scenery, for she had her nose close to the turf, and was trying the flavour of some wild flowers!

Everything around the lake was pleasing. On one of the shores I saw many gentlemen's villas, with green lawns, shaded by the thick woods surrounding them. On the opposite shore are mountains of a great height, with their summits lost in the clouds—rude rocks which seemed to strive, one with another, for grandeur. We could not see the distance very clearly, because in some parts, the vapour was rising from the lake, causing all beyond it to look grey and indistinct.

We turned off to the village of Pooley, where I stopped to have breakfast at a fisherman's house.

When the cloth was laid, the fisherman's wife brought me some fine *trout*, of which I ate very much, for I had a famous appetite.

"What other fish do you catch in this lake, mar'm?" I said.

"Mostly trout, and eels, sir. The eels here are very large—and so are the trout sometimes. I have known them to weigh as much as thirty pounds."

When breakfast was over, I went with this good woman to a most surprising place, which I will tell you about.

After half-an-hour's walk, we found ourselves in a spot surrounded by high rocks, and hills.

I was looking, and wondering at the strange wild shapes of the rocks—when, suddenly, I heard the report of a cannon, which she had told some man to fire off.

"Hark, sir!—listen!" she cried; but it was not very easy to "hark." I was almost *stunned*—the report of the cannon struck against one of the rocks, and then bounded back again to another.

It rolled back from that one to another rock, and another, and another,—until the number of echoes it made, all sounding together, were like a loud peal of thunder. For several seconds, the sounds were banging about amongst the rocks, and seemed to have no place to go to—until they gradually and gently died away.

"I am rather glad that the sound has gone," said I, "but—why! they seem to be *approaching again.*" I could not now tell where the sound came from. Sometimes it seemed to be on the right hand side, sometimes on the left—now it seemed to be behind me, then in front—but at last it seemed to be coming from all quarters with good speed. Again the sound left us, and then returned as before, and this was repeated *seven times!*

"Be'ent that queer, sir?" said my companion, as she laughed with joy at my staring—"but, ye shall hear more yet."

In a moment there came a noise so violent that I felt as though I should fall to the ground. Several cannons had been discharged together; and the clap was tremendous. The sounds echoed and echoed from every side—whilst the confusion and uproar was so great, that it seemed as if the enormous rocks which surrounded the lake were being rooted up, and hurled into the water.

"Ah! now ye be in trouble, sir," cried my companion, "but, when the noise be all gone, ye shall hear something pretty!"

I soon heard the sound of two French horns, which now produced very curious effects. Their echoes seemed to mingle together, forming sounds of all kinds of music;—sometimes like a splendid deep-toned organ,—at other times like a soft breathing flute.

"Well," said I, "this is very beautiful! I never before heard such wonderful echoes! — How large is this lake?" I asked of my companion, as we went home again.

"Nine miles long, sir. It be one of the largest lakes in England—and is called ULLSWATER. It measures two miles across in the broadest part. But the largest lake in England is WINDERMERE, sir. That is nearly 12 miles long."

"And how far is it to Windermere?"

"About 14 miles, I should say—but if ye be going there, ye'd better stay and take some dinner first, sir. May be my good man will be home."

So I stopped at the house of the fisherman until the afternoon; and in my next letter, you shall read how Peg and I set out for Windermere.

I am,
Dear children,
Your affectionate friend
HENRY YOUNG.

GRATITUDE—THE STORM.

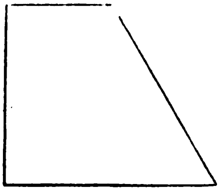
THE air is chill, the rain falls fast,
And dark and wintry is the night,
And cold and biting is the blast,
And not a star affords its light;
How can I then ungrateful be,
Who have a house to cover me?

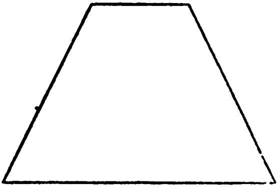
How many poor around me roam,
Not knowing where to lay their head,
Without a friend, without a home,
Except it be a mud-wall'd shed;
How can I then ungrateful be,
Who have a house to cover me?

QUADRILATERAL FIGURES

(Concluded).

P. Here are some more four-sided figures.





W. Please, papa, I would rather not undertake to describe them. They have a very awkward look.

P. Well, you need not do so. I will simply tell you their names. They are called Trapeziums. Every quadrilateral figure which is not a square, or a rhomb, or a rectangle, is called a *Trapezium*—no matter what may be its shape.

L. What is meant by *Quadrilateral* figures, papa?

P. You may almost perceive that it must mean *four sided.* The word "quadrilateral" is made from two Latin words meaning four sided.

You may now sit down and make a lesson on all the quadrilateral figures you have been learning about.

Lesson 6. QUADRILATERAL FIGURES.

A figure with four sides is called a QUADRILATERAL FIGURE.

A quadrilateral figure with four equal sides, and four right angles, is called a SQUARE.

A quadrilateral figure with four equal sides, and two acute and two obtuse angles, is called a RHOMB.

A quadrilateral figure with two pair of equal sides, and four right angles, is called a RECTANGLE.

A quadrilateral figure with two pair of equal sides, and two pair of equal angles, is called a PARALLELOGRAM.

All other quadrilateral figures are called TRAPEZIUMS.

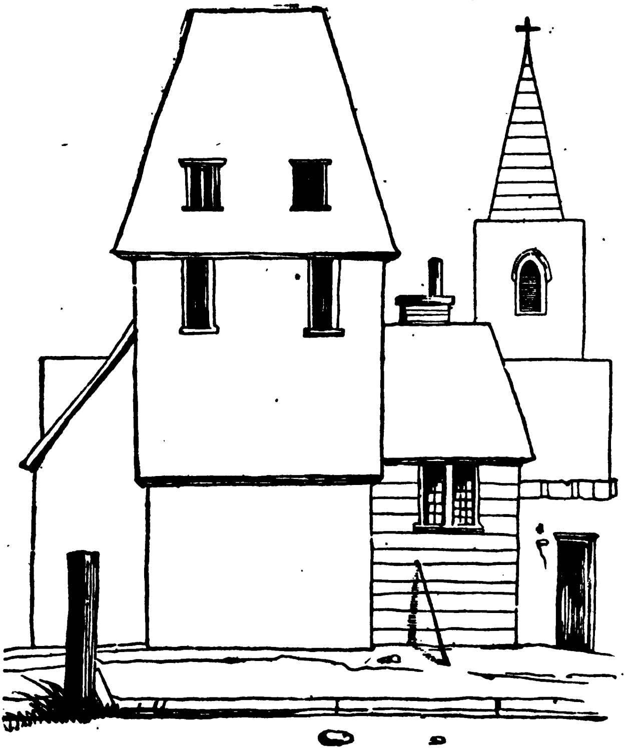
P. Now, here is a new drawing for you. You must not think it is difficult—you must first copy the two trapeziums carefully,—then, if you can draw easily the figures you have learned before, you will be sure to make the drawing nicely.

L. I will count the different figures in it. There are *two squares,* viz.:—the upper part of the house, and the window of the shed.

Three rectangles, viz.:—the lower part of the house, the tower of the church, and the door in the wall.

Three trapeziums, viz.:—the two roofs, and the little house on the left.

The little piece of roof projecting from that house forms a *right-angled triangle*—and, the spire of the church is an *isosceles triangle;* so that there are, altogether, two squares, three rectangles, three trapeziums, a right-angled triangle—and an isosceles triangle.



Trapeziums, Square, &c.

PLEASANT PAGES

FOR THE

13th Week. MONDAY. Moral Lesson.

"*He that runs fast will not run long.*"

"What do you think aunt has sent for us?" cried Rose to her elder sister Ann—as she held up a parcel.

"I can't tell," said Ann.

"Then look! first, here is a little *letter*—a note; and secondly, here is a new instruction book. Aunt says that she has marked one of the best pieces—and, that we are to learn it by the end of next week, when she will be coming back to town. I shall soon learn it!" said Rose—"very quickly."

"It seems rather difficult," said Ann, "it will take me a long time; but—ah! that is very pleasant. Aunt has marked the fingering all the way through,—1, 2, 3, 4, and a x for the thumb."

"Well, I will begin at once," said Rose, "I will soon run it over, while you go on with your crochet."

Ann listened to Rose as she played, and thought that it was very quick work. When she came to a bar which was rather difficult, it was so "run over," that it was *spoilt.*

"But you are not counting!" said Ann.

"No, I can play without that," said Rose. "Listen to this part! is it not pretty? I call it *delightful.*"

"Yes; but if you were to finger it—just as aunt has marked it here —I think t[illegible] it would sound better still."

"So it would, perhaps—and, I think I'll attend to that soon; but I want now to get an idea of the tune.

"Yes—it is a very nice tune indeed—so hear me make the piano *go!*" The unfortunate piano had no alternative but to "go;"—so it gave forth the best sounds it could in return for her thumps;—indeed, it went on rather strangely. Some of the *sharps* were sounded rather flat;—the flats were played as naturals, and sounded quite unnatural;—there were sad accidents with the accidentals, for some were lost in the crowd. The soft and loud parts were all treated alike; and, if any parts were wrong, the keys were *thumped* again to make them "go" right. Thus, after shaking her head, shaking her elbows, knocking her feet together to beat time; and keeping her body, limbs, eyes, head, and hair in motion in a peculiar manner for half-an-hour, Rose felt that she could not possibly go on any longer. She jumped off her stool feeling hot and tired, and ran to have a roll on the grass.

"I think," said her little brother James, "that you have learned that tune very quickly!"

"To be sure I have—I learn very fast; I like always to do things *at once!*"

"I like to do things at once, *sometimes*," said Ann, "but not always. There are many things which were not intended to be done directly—they require a long time in doing."

The next day came, and Rose sat down again to her new piece. This time it was not quite so interesting, because she knew *the tune*—she played it through several times, but so quickly that she was soon tired, and left the piano after practising only twenty minutes.

The day after she practised no longer than a quarter of an hour. The difficult bars were tried for a little while by themselves. Rose thought then that she ought to notice the fingering, which her aunt marked, but, by this time she had heard what she *thought* was the tune so often, that she was rather too tired to begin it again.

"Oh, Rose!" said Ann, on the fourth day, "you had better not leave off yet—I was afraid when you were so delighted with the piece at first, and began to practise so fast, that you would not practise it *long!*"

"But," said Rose, "I know it now perfectly."

When Ann sat down to practise the same piece, she began very differently. It cost her much more time. She slowly noticed the "fingering," and soon played the first three bars; but the fourth bar was not to be done so soon. She tried it three times, then six—and then six times more, but would not give it up nor pass it over to go on to the next. So, at the end of an hour, she had made very *slow* progress, and could only play seven bars—but, they were all played well.

In three days more, Ann could play the whole tune. Some of the bars had been practised, separately, more than thirty times! But, when, after more practice, she could play them all *easily*, the whole piece sounded beautifully. Ann liked it more and more, and played it slowly every day, without feeling tired, until the Saturday, when her aunt returned.

I dare say that now you can tell me which of these girls pleased her aunt on Saturday.

L. It was Ann, I know.

P. Yes. "Why," said her brother George, "that tune does not seem to be the *same* as when Rose played it! It is a very different tune indeed. But why did you not feel tired when you played those bars over so many times—for nearly two hours?"

"Because," said Ann, "I played *slowly*."

"Ah," said the aunt to Rose, "you would not have spoilt the piece so, if you had practised it more."

"But, aunt, I felt so tired of it."

"Do you know *why* you were tired, and could not play very long?"

"No, aunt."

"I will tell you—it was because you would 'run over' it so *fast*. You will always be a bad player if you do so. Never think that you gain time by making too much haste! but put this proverb in your mind, and remember it,—'HE THAT RUNS FAST WILL NOT RUN LONG.'"

W. I am quite sure that that is a good proverb, papa. In our book of fables, there is a tale about a *tortoise and a hare* who ran a race. The hare, you know, ran so fast that he did not run long. He soon lay down to rest; and whilst he was resting, because he had *tired* himself, the slow old tortoise going on, and going on steadily, reached the end of the journey first.

Ion. Yes, and I can tell you a moral tale about myself, papa—it is a *fact*, and that is better than a fable.

Last Tuesday, wh[illegible] you and mamma went away in the omnibus, mamma told us, before she went, to weed the long bed in the garden. So Willie and I marked out a very large piece for ourselves, because we were boys.

W. Ah, and we gave Lucy and Ada the little piece, because they were *girls*.

Ion. Well, papa—we *worked away* very fast—about twice as fast as the girls. We raised a great heap of weeds, and soon made ourselves in such a mess—but still we pulled and kept on pulling, as hard as we could, until our backs ached, and we were both in a perspiration. Then we went to get some water to drink.

"Well," said Willie, "I think we will stop a little. We will rest a bit under the apple tree. We can work faster than they can, and will soon finish what they leave."

After we had rested we began to sing a little. Then we went to get some cabbage-leaves for our rabbits—we next climbed up the apple tree; and Willie tore a hole in the knee of his trousers;—so we went in the house to get them mended, and then came back to help Lucy—and, what do you think, papa?

P. Why, I feel sure that Lucy had been doing your work for you.

Ion. Yes, so she had. She had weeded her own piece, and had almost finished ours—she was so sorry that we did not wait two minutes longer.

W. And what was more, papa—she had worked two hours, and did not feel tired.

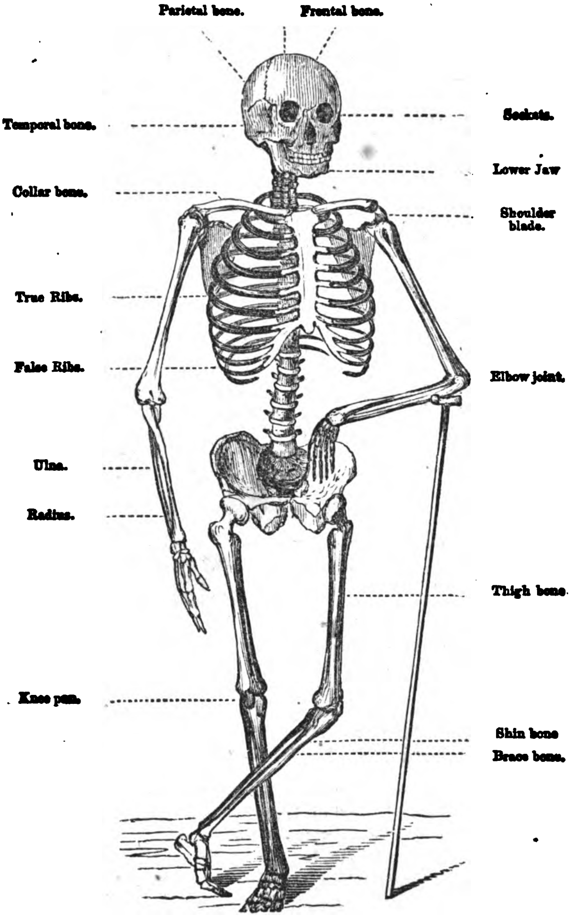
P. That was because she worked *slowly*. Both Ada and Lucy might have made you sit down, and have preached this proverb to you again—"He that runs fast will not run long."

LAPLAND.

With blue cold nose, and wrinkled brow,
Traveller, whence comest thou?

From Lapland woods and hills of frost,
By the rapid rein-deer cross'd;
Where tapering grows the gloomy fir,
And the stunted juniper;
Where the wolf and arctic fox
Prowl among the lonely rocks!
And tardy suns, to deserts drear,
Give days and nights of half a year;

—From icy oceans, where the whale
Tosses in foam his lashing tail;
Where the snorting sea-horse shows
His ivory teeth, in grinning rows;
Where, tumbling in their seal-skin boat,
Fearless, the hungry fishers float,
And from teeming seas supply
The food their niggard plains deny.



WILLIE'S FRAMEWORK.

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK.

M. Here, Willie, is the drawing of your framework. Papa finished it last night.

Ion. What a curious thing, mamma—let us all look at it! Yes, Willie, it must be like your framework, because it has such short legs. How *bony* it is!

W. It hasn't a very *pleasant* look.

M. Ah! but it is a very pleasant thing to learn about. See if we don't get some pleasant thoughts out of it! We will learn the names of these different bones, and their *uses.* How many parts do you notice in it, Willie?

W. Ever so many. It is all *parts.* But I haven't half noticed it yet. Please let me look at it a little longer. Look, Ion—*there's* a queer bone!

M. Well, Willie, now you have done looking at it—which do you call the principal parts?

W. I should think that *the Head* must be one. What would it be without that! Then the middle part—the body, or the *Trunk* as it is called—is another principal part; and then, what is left? Why, there are legs and arms remaining, that is all—they are called *Limbs.* So, that there are three principal parts,—

(1.) The Head,
(2.) The Trunk,
(3.) The Limbs.

I suppose we shall learn of one of these parts at a time. May we hear about the *Trunk* first? I want so much to learn about my backbone.

M. It is time to leave off that word *backbone.* You must call it the "spine."

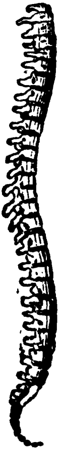
L. Ah, mamma! Just as our bodies change their dress. When we grow bigger, we leave off our old clothes—our pinafores, and frocks,—and wear different ones; so, when our *ideas* grow, our old words are not good enough to put them in—and so, we use better expressions.

W. Yes, I like that. We get some Latin names, too, and sometimes a little bit of Greek. We shall talk *all Greek* soon.

M. I hope not, Willie. Come and have a little English with me about the bones of your trunk. Look at them! which do you think is the principal bone, there?

W. The backbone is, mamma—the *spine,* I should say.

M. Then here is a separate drawing of the spine which you may examine.



W. I notice first, mamma, that it does not seem to be *a* bone. No, it is made of a number of little bones.

M. That is true—count them!

Ion. I will, mamma.—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,—12, oh! there are too many.

M. Well, you cannot count them easily. I will tell you—there are *thirty-three* of these little bones in the spine. Each bone is called a vertebra. That is why we are called *Vertebrated Animals.* Here is a drawing of a single vertebra.

Ion. It has a hole in the middle of it, mamma.

L. To be sure it has!—and when the bones are placed on top of each other, as they are—these holes in them form one *long hole*—a tube. Thus, the spine is hollow like the bones of our legs—and so it should be, that it may be stronger.

M. Yes, and this tube has even a higher purpose than giving *strength* to the bone. Listen. Do you remember my telling you that all the nerves in your body meet in one part—the *brain?* You wondered how they could all be made to reach one place—now, I will show you.

This tube in the spine is useful, because it forms a case for a sort of marrow, or pith. This marrow or pith is called the Spinal Cord. It extends the whole length of the tube, and at the top, it joins the brain in your skull. Do you understand that?

Ion. Yes, I do, mamma, very well—and I think that *Ada* does.

M. Very well. Now, all those wonderful little nerves in your body, do not exactly begin at the brain. They begin at little openings in the spine between the vertebræ.

L. I see the openings, mamma. They are marked in the drawing—there are some little holes between the joints.

M. At these openings, then, they are joined to the spinal cord, which I told you before, is joined to the brain.

W. Perhaps that is the reason why the spine has so many little bones—that there may be openings between them.

M. If you think, Willie, you may find a better reason than that. If your spine were a straight bone, like the bone of your leg, there might still be little holes in it for the nerves, but then, what a straight-backed, stiff-necked fellow you would be! You could never stoop to pick up anything.

W. Nor could I move my head to look down easily, and I could never *make a bow*. I see now, these joints in the spine make it more *bendable*—flexible, I mean. Is not that the proper name for a thing that will bend?

M. Yes, but not for *everything* that bends.

W. Then, mamma, the spine is a famous bone, it has such good qualities—

1st, It is *strong*, and yet
2nd, It is *flexible*—whilst
3rd, The hollow tube in it, not only gives it strength, but forms a case for the spinal cord—it is the railroad for my electric telegraphs—*the Nerves.*

L. And with plenty of *stations* in it—one at every joint.

M. Yes, this bone is full of wonders—it is one of the many parts of your body from which you may get beautiful thoughts of God's wisdom. Ah, and thoughts of his love and goodness too, when you understand it properly. You have forgotten to notice its shape.

Ion. I was wondering at that, mamma—Instead of being a nice, straight, perpendicular bone, so—

it is *curved;* there are two curves in it—a double curve. Why is that?

M. There is a very nice reason for it, Ion. If these vertebræ were placed on top of one another—so as to make a straight line—it would happen, whenever by accident you had a knock on the top of your head, that each bone would strike on the one beneath it.

W. I understand, mamma—they would "jar" against each other.

M. That, you know, would be very disagreeable, especially if there were no cartilage or gristle between the vertebræ. And, again, it would happen, if you were to jump down six stairs, as you do sometimes, and come down suddenly on your feet—the shock would produce the same "jarring" of the vertebræ against each other—but, in an *upward* direction—from the bottom of your spine to the top; and it would produce a very bad effect on your *brain.*

W. I see, mamma, and I suppose that the jarring is not so bad with a *curved* spine as it would be with a straight one.

M. No. If you received a hard blow on your head, the force, instead of striking the bones against each other, would merely cause the whole spine to bend more—just like a spring.

Ion. Ah! how God must have thought when he made us! He knew that we would want to *jump,* sometimes.

M. And yet, Ion, if you had ordered your own spine, you would have liked a "*nice, straight, perpendicular bone.*" I can tell you another curious thing about this curve. It causes your body to get shorter every day.

W. How can that be, mamma? Why, we should grow down to nothing, like candles!

M. Listen. The cartilage between your vertebræ is *elastic*—(you know very well what that means). Now a man, in the daytime, instead of lying down, is either standing or walking—so the weight of his head is always resting *on* the spine. This you can see in Figure 1. So, it happens in the course of the day, that the head continually bearing on the vertebræ, presses them closer together—this pressure causes the

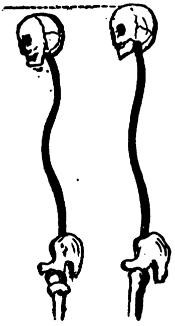


Fig. 2. Fig. 1.
Bed time. Morning time

spine to curve more—as I told you a violent blow would do. It thus becomes *shorter*—and at night, when a man goes to bed, he is about *half-an-inch shorter* than he was, when he got up in the morning. You see this in Figure 2.

W. That is curious!—Ah! but then he gets right again in the night, mamma. When he lies down the cartilage stretches again—of course it does!

Ion. Ah, mamma, you only told us *part* of the truth—that was as bad as Mr. Ganeall.

M. I left that for you to find out. But now you may sit down and write the lesson—The 1st lesson on your framework. Lucy will do it.

Lesson 8. THE FRAMEWORK OF VERTEBRATED ANIMALS — THE SPINE.

(1.) *The bony Framework of Backboned Animals consists of three principal parts, viz.—*

1. THE HEAD,
2. THE TRUNK,
3. THE LIMBS.

(2.) *The Trunk has several bones, the principal of which is* THE SPINE. *This Spine consist of several ring-like bones called* VERTEBRÆ. *These vertebræ are so placed above each other that their holes form a long* TUBE. *The tube forms a case for a sort of Pith called the* SPINAL CORD.

(3.) *This Spinal Cord is connected at one end with the brain, and is also connected with the nerves, at the little openings between the vertebræ.*

(4.) THE SPINE IS THEREFORE A MOST REMARKABLE BONE—*for it is very strong and yet flexible—and, at the same time, it protects the spinal cord, that important organ which conveys sensations from our nerves to the Brain.*

THE MONKEY.

LOOK now at his odd grimaces,
Saw you e'er such comic faces?
Now like learned judge sedate,
Now with nonsense in his pate.

Look now at him. Slily peep,
He pretends he is asleep—
Fast asleep upon his bed,
With his arm beneath his head.

Ha! he is not half asleep,
See, he slily takes a peep!
Monkey, though your eyes are shut,
You could see this little nut.

There the little ancient man
Cracks as fast as e'er he can:
Now, good bye, you funny fellow,
Nature's primest Punchinello!

THE SAXON KINGDOM.

EDRED, EDWY, EDGAR.

Ion. I *liked* that story of Athelstane last week, papa—so much.

P. Yes, I knew you would. But I forgot to tell you one thing. These Danes kept their promise, and never came again. They *couldn't* do that.

W. Why not, papa?

P. There was something, now, in the hearts even of these rude men that would not let them do so! The king could not always stop them with the sword—they were not afraid to *fight.*

But, "There's a power can conquer the sword." Do you know what that means?

W. Why, it is *stronger* than the sword—can do more, I suppose.

P. Yes. The sword brings quarrels and disorder on the earth; but this power *prevents* quarrels, and brings peace and order. It is called LOVE.

Yes! this new power of love which the poor Danes felt was much stronger. It made them think that they would rather live and be poor in their own country, than lose Athelstane's good-will.

They were not afraid to fight—not they! But now, when he had been kind to them, they were *afraid even to make him angry*—they were obliged to obey him.

To-day we will talk about three more Saxon kings;—but I have a dismal picture to give you.

The next king was called EDRED. He began to reign in 946. You remember what I told you of the times of John Huss,—and of the great darkness in the minds of men. In the time of Edred, which was about 500 years before then, there was a *bad power* working very strongly on the earth, and it brought—ah! far worse slavery than that of the Danes.

This bad power, which is called SUPERSTITION, not only taught men to do wickedness, and foolishness,—but to call good things bad, and bad things good.

W. Ah! it taught the priests to burn *John Huss*, and call that a good thing!

P. I must stop now to tell you of some of this foolishness. JESUS CHRIST had said that He was the "door" to heaven, and that men could only enter heaven through Him;—but, the people were taught that there was a wooden door—that the Apostle Peter had real iron keys, and that he was the only person who could open this door.

And, how do you think that the apostle was to be persuaded to do this for them? Why, with MONEY!! You may well thank God that we have His Word now; for in these days, even *little children* who might hear such nonsense would not believe it!

But the poor blind English people did! Every nobleman, and all who had money, were persuaded by the priests, that they must leave their country and go as "pilgrims" to Rome. They all imagined that it was not possible to reach heaven without first paying their compliments to St. Peter, who kept the keys,—so away they went!—and everywhere the princes and priests looked out for a chance to cheat them. This love of pilgrimage, which was getting very strong in the reign of Edred, grew so fast, that about 100 years after, very large sums of money were gained by the kings of those countries through which they passed, by making them pay *tolls* upon the road.

Then, when they reached Rome—there the Pope and clergy were ready, and waiting to "take money." They did not care that Jesus Christ had said, Come for salvation "without money and without price," but they opened a shop to which crowds of nobles, bishops, and kings, came eagerly to buy.

And they sold very strange things!

They pretended that they had whole *legs and arms* of Christ's apostles to sell, which were worth much money;—and, that they "had on hand" a stock of bones, toes, and fingers, which were, all of them, first-rate articles. They called these things "holy relics;" and although they sold thousands of them, they still declared that they had more. They offered to sell things which they said were pieces of the cross;—nails from the cross;—a tooth of St. Peter;—a shoe of the Apostle Andrew; and,—you shall hear for how much they sold them! In the year 1021, an Archbishop of Canterbury, **Agelnoth**, wanted an arm of St. Augustin—the missionary who, you may remember, first came to England—and he paid for that arm (whether it really was Augustin's, is doubtful) 60lbs. weight of gold, and 60,000lbs. weight of silver—an immense sum, greater than you can think of.

Again. In England, so foolish were the people, that forgetting our Saviour was very poor, they allowed the clergy, who taught about Him, to be *rich*. Ah, so rich, that if you had divided all England into three parts, one of these parts would have belonged to the priests:—and whilst the people paid taxes for their lands, the priests paid *none*.

With all this foolishness we must not be surprised that the people improved very slowly. Although Alfred and Athelstane had tried to teach them, they were still in a wretched state. Two out of every three of all the English, were either servants or slaves. The poor slaves were called *Thralls*, and they were sold in the market-place with the oxen. Indeed, slaves and oxen were the living money of those days, and were used to pay debts with. Thus, a man was worth four cows, just as, now, a penny is worth four farthings.

No wonder, then, that in the times of the Saxon kings, the people were in a weak state. No wonder, that they were an easy prey to the Danes, and had to be taken care of like sheep—they were quite as foolish. No wonder, when the Saxon kings were afterwards driven away by the *Norman*-Danes, that they were soon subdued. Their *minds* were made slaves by superstition,—so they had no strength, nor spirit in them.

Dear children, I have taken the trouble to tell you these tales to our ancestors that you may learn something.—Learn to use your minds, so that, in time, you may *think for your selves!* Do you want to serve God? Take his holy book, and ask *Him* to teach you. And, if you mean, when you grow up to be men, to love your country, and to sing, "Britons never shall be slaves"—go to Jesus, and be free yourselves. Go! learn from his Holy Spirit the right way to serve Him, whose service is **PERFECT FREEDOM.**

WATER.

M. Well! we have by this time learned something of the objects on our Breakfast-table.

W. I will count them, mamma. We have had lessons on the Tablecloth, Bread, Butter, Sugar, Milk, Egg, Salt, Coffee, and papa's Cocoa; and, to-day, we are to learn of the *Boiling Water* in the Urn.

M. We will first observe it in its natural state. Here is a glass of cold water—now, find out its qualities, and make a description of it. At least, we will begin our description to-day.

W. Well—water is very *thin.*

L. And it flows about—so it is *fluid.*

Ion. But its particles can hold together a little—enough to form a drop—so it is *liquid.*

L. It is *clear.*

W. Yes; it is more than clear—it is *transparent.*

Ada. And it is *bright.*

Ion. It is not only bright—but see how it sparkles!—It is *sparkling.*

It has no colour in it—so, it is *colourless;*—and, it has no taste—so, it is *tasteless;*—and, it has no smell—so, it is *inodorous.*

L. And it is like the minerals—it has no life—so, it is *inanimate.* And it has no "organs"—at least, I *suppose* not.

Ion. No, of course it has not—what does it want them for?—it hasn't life!

L. Then it is *inorganic.*

M. You are talking of all its *negative* qualities, let me hear some of its positive qualities.

W. Then I am positive that I see my face in it.

M. I doubt that, Willie! for nobody in the world has ever seen his own face, yet.

W. No, I forgot, mamma. It is the reflection I see—so, water is *reflective.* What do you really mean by a reflection?

M. A reflection literally means "a bending back again." As you look in the water, all the light in your face shines on it, and makes an image there—can you understand that?

W. I can understand it pretty well.

M. Then, when the light of your countenance — which forms the image—reaches the surface of the water, it bends back again.

W. I can't understand *that,* mamma.

L. Why, just as in the evening the red light of the sun strikes against the surface of the windows, and bends back again!

M. Or, just as a ball, when you strike it on the surface of a wall, bounds back again!

L. Or, just as the echoes of the cannon, at Pooley, struck against the rocks and bounded back again!

M. Ah, you'll mystify Willie. A "reflection" just means *a bending back again* of the light—from the Latin words re, again, and flectĕre, to bend. Now, tell me some other reflective substances.

W. The coalscuttle, mamma—the handle of the door—the glasses—a looking-glass. And so now I will say our "description" of water!

Water is a thin, fluid, liquid, clear, transparent, bright, sparkling, colourless, tasteless, inodorous, inanimate, inorganic, and reflective substance. Now, if we write its *effects*—

M. Not now—the Printer will not let us make [illegible] "lesson" any longer—because [illegible]ays it is only to fill one page. [illegible]d-bye.

THE CRUST OF THE EARTH.

P. We have now examined three of the principal substances which form the crust of our Earth.

1st, Lime *(or Calx).*
2nd, Clay *(or Argil).*
3rd, Flint *(or Silex).*

You know that the soil in the fields, and the mould in your garden, is made chiefly of these substances.

That soil is the best where all three are found mixed together. Thus—where there is heavy clayey soil, it retains too much water, and is very cold. If you mix lime with it, the *heat* of the lime will correct the coldness. At the same time (for you remember that lime is very absorbent), it causes the water to pass through more easily.

Or, again,—this clayey soil may be too hard, and too heavy for the roots of the flowers to work their way through it; then the sand and stones of the *silica*, if mixed with it, will loosen it even more than the lime.

On the other hand, suppose that the soil should be too loose and sandy, the clay will render it more sticky and firm. Again,—when the chalky soil absorbs too much heat (or caloric) from the sun, it becomes too dry and dusty—clay will then give it dampness and coldness.

Do you understand that? There, again, we see how beautifully the Creator makes all things work together—even in the ground we tread upon.

But in your Natural History lessons I told you that these three mineral earths would not *alone* be very fertile. Most vegetables, to grow well, require a mould which contains *decayed animal and vegetable substances.* So, we find that every year thousands of leaves fall off from the forest trees. The leaves also, and flowers of dead plants, dead weeds, old pea-shells, and other husks, the old roots of the grass, all serve to make rich mould; even the little smooth green mosses, when they die, serve to make the ground richer.

Sea-weed, too, is used as a manure; and these sea-weeds are burned to make a substance called *potash.* Even the smoke which goes up the chimney forms soot, full of fine *carbon.*

W. Yes; I have noticed how careful the chimney-sweeps are of their bag of soot. So they take it home to feed their plants, do they? What is "carbon," papa?

P. Never mind now. Listen! Not only do the vegetables die every year, but innumerable quantities of small animals, insects, flies, grubs, &c., and they all serve to make *earth.* They supply carbon and *ammonia*, another gas which vegetables feed upon.

The bones of animals, too—

W. Ah! to be sure, the phosphate of lime, and the carbonate of lime in them are *earths.*

P. Now, in order that vegetables may grow well, every particle of the soil ought to be surrounded with air. This air in the earth will then unite with the carbon of the decayed animals and vegetables and form cabonic acid.

Ion. Ah! Just as the air which flows down my throat unites with the carbon in my blood, and makes breath.

L. The mould in my garden, papa, is very porous. There are little spaces between its particles, so that the air may get in—and now

I see one reason why the gardener digs up the mould and turns it over. It is that *the air may get at it*, and that it may not be too hard. Then, clayey soil alone cannot be very good soil for vegetables.

P. No, it is not. You may now learn, that this soil on the surface of the earth is called *vegetable soil.*

W. And what is underneath the vegetable soil, papa?

P. If you dig down a little depth, you will reach an earth which is formed of sand and gravel.

Ion. And what is below that?

P. Beneath that you would find some hard blue clay, mixed with great numbers of large rounded stones. These stones have been worn to a *round* shape, by the washing of water; and are called *boulders.*

L. But how could the water wash them, papa, if they are underneath the ground?

P. Why, they were not *always* covered over so. That blue clay, at one time, was on the *surface* of the earth. This is the way it happened. A long, long time ago, before man was made, and before GOD said, "Let the dry land appear," the waters were not "gathered together in one place," but made great deluges, which washed all over the earth's crust. Then, when they *went back again*, they left behind them this clay, and the round stones or *boulders.*

L. Then, I suppose that the sand and gravel on top of the clay was also brought there by the water.

P. Yes. And if you could *cut* through the middle of this globe—just as you would take a knife and cut an apple in half—you would see that the crust of this earth consists of several layers, or *slices*, of earths, placed on top of each other. You would see the thin slice, or "stratum," of *clay and boulders*, and above that, a thin layer, or stratum, of *sand and gravel*, which the water had laid over it.

W. I suppose, papa, that the sand and gravel formed a sediment at the bottom of the water, just as the coffee-grounds do sometimes at the bottom of your cup.

P. That is right; and thus a slice of earth, or "stratum," as we call it, was formed. Above the sand and gravel is the very thin layer of *vegetable soil.*

L. But, papa, what is there *under* the clay and boulders?

P. Ah, I cannot stop to tell you now; but perhaps we will go down a little deeper in the next lesson.

L. Oh, papa! stop one minute, please. Will you tell us where did those great boulders come from?

P. I cannot tell exactly—I was not here when the sea deposited them. It is believed that these boulders are great pieces of rock, which have been washed down from the mountains, especially from the mountains in the Northern regions. The snow on these mountains melted perhaps; or, coming down in immense masses, it formed great torrents and waterfalls. These torrents rushed on, and as they came down with a wonderful force, they broke off large pieces of rock. Then, as these masses of rock came tumbling down with the torrents, they dashed one against another, and broke into smaller pieces.

When they were thus borne into the sea, they were continually washed backward and forward; and thus, by continually grinding together, they broke off each other's sharp edges, which were worn more and more until they became rounded, and were called BOULDERS.

MORNING.

AWAKE, little girl, it is time to arise,
Come shake drowsy sleep from your eye:
The lark is loud warbling his notes to the skies,
And the sun is far mounted on high.

Oh come, for the fields with gay flow'rets o'erflow,
The dew-drop is trembling still;
The lowing herds graze in the pastures below,
And the sheep-bell is heard from the hill.

Oh come, for the bee has flown out of his bed,
To begin his employment anew;
The spider is weaving her delicate thread,
Which brilliantly glitters with dew.

Oh come, for the ant has crept out of her cell,
Again to her labour she goes;
She knows the true value of moments too well,
To waste them in idle repose.

Awake, little sleeper, and do not despise
Of insects instruction to ask;
From your pillow with good resolutions arise,
And cheerfully go to your task.

EVENING.

LITTLE girl, it is time to retire to your rest;
The sheep are put into the fold,
The linnet forsakes us, and flies to her nest,
To shelter her young from the cold.

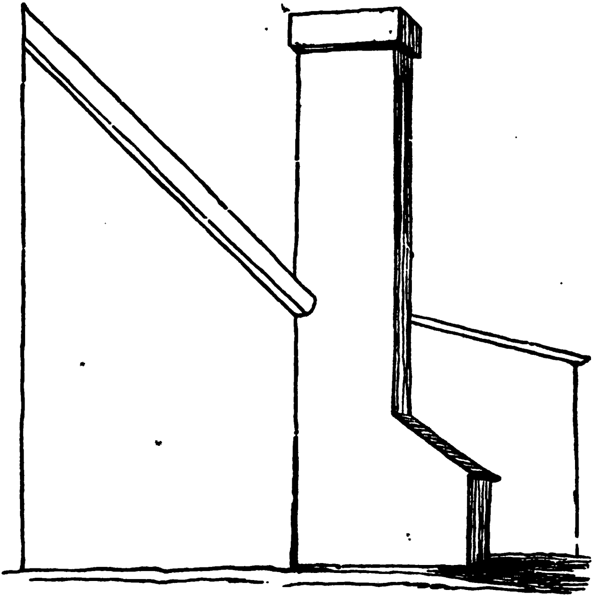
The owl has flown out of its lonely retreat,
And screams through the tall shady trees;
The nightingale takes on the hawthorn his seat,
And sings to the evening breeze.

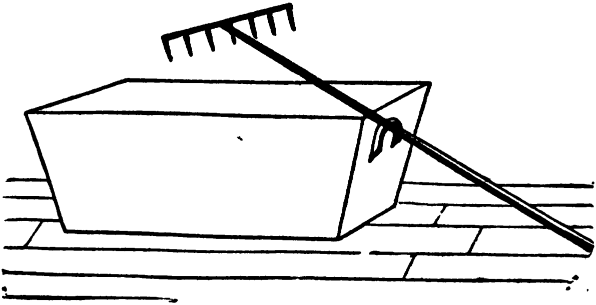
The sun, too, now seems to have finish'd his race,
And sinks once again to his rest;
But though we no longer can see his bright face,
He leaves a gold streak in the west.

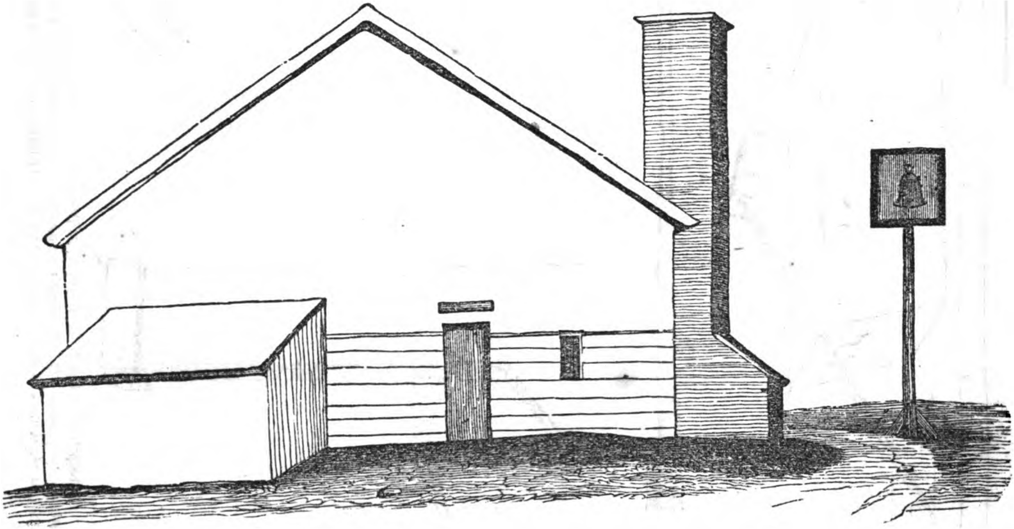
Little girl, have you finish'd your daily employ,
With industry, patience, and care?
If so, lay your head on your pillow with joy,
No thorn to disturb shall be there.

The moon thro' your curtain shall cheerfully peep,
Her silver beams dance on your eyes;
And mild evening breezes shall fan you to sleep,
Till bright morning bids you arise.

P. We will not learn the names of any new figures for the present—but, to-day and next Saturday, I will supply you with a series of drawings for practice. Some will be easy, and some difficult.







The Square, the Parallelogram, Rectangles, &c. &c.

14th Week. MONDAY. Moral Lesson.

"He that runs fast will not run long."

P. Here is another tale for you from the old proverb. Listen—

What a quaint old church ours was! We used to have service there on the Sunday afternoon, instead of the evening—so, on Sunday evening we went out for a walk.

Then was the time to see our church—when the jackdaws were holding their convocations, and making their weekly report. They felt that they had the place all to themselves; not a frog dared to croak, or to let them know he was near.

The shortest way to the church was through Mr. Gray's farm (if you were not afraid of the turkey-cock) across the footpath in the meadows, up hill all the way, until you came to the thin wooden churchyard palings. Then—over the stile and you're in the churchyard!

And there, too, one Sunday evening, sat the Curate and his daughter, in spite of the jackdaws. Near the lime trees, round the wooden porch, they sat on an old flat tomb, feeling the summer breeze which came across the cornfields beneath, and freshened the evening air.

They talked of the beautiful evening time—the day's dying hours;—of the twilight which the strong summer days make, when they struggle for life with the night;—of the strength of old night in the *winter* time, who then would never wait for twilight, but would come as early as he chose.

Then the Curate told his daughter, who was 16 years old, that she was in her summer days. He told her that her light and sunny mind was full of joy, like the days of summer time—and, that when troubles dark as the night might come to her, her light heart could struggle with them, and turn them to *twilight* at least.

He told her that old people had not so much joy in their hearts, and had darker days—that, as they could not struggle with their troubles, their minds had often *dark nights* of sorrow.

"Then," said her papa, "although the summer days cannot come at Christmas to help the dark days of winter—"

"Yet," said his daughter, "the young can help the old people, and cheer them with their happy spirits, to make their days brighter."

"That *was* my thought," said the Curate; "and now, here comes a poor woman who has seen much sorrow—sorrows as dismal as the night. See if you can give her joy, and make some 'twilight' for her."

"I see her, papa. Here she comes, on this side of the stile, and two little boys with her—one in each hand. They both have straw hats, they both have black ribbons round them, and both wear blue pinafores with little round white spots. They both have black bands round their waists, and they both have black curly hair, with dark black eyes. I like those boys."

"Good evening, sir!" said the poor woman, making her curtsey.

"Good evening, Mrs. Pearce; you have come at the exact time. Will you sit down here, and we will talk together?

"Jane, my dear, this is Mrs. Pearce, who is now a poor person. Her only riches are these two dear boys, who, if God spare them, will one day grow to be men, so that they may take care of her, and make her glad again.

"They are not very great boys now, and although they are great treasures to their mother, you may make them worth much more still."

"How, papa? I cannot make them grow faster!"

"No; you may leave their bodies to take care of themselves,—but their minds are like those of other children, and will not grow properly unless they are looked after. Would you like to teach them, and take care of their minds, every day—while Mrs. Pearce goes out to work?"

"Oh yes, papa! I want some good thing to do. Ah, what fine pupils—come here to me, you two boys, and let me kiss you! I will love you very much."

"But mind, Jane, I do not want you to teach them because you love *them*, but because you love *to do good*. You understand this. You must think—not of what they are—but of *what you may make them*—of the gladness you may bring to their mother;—and, work only for the good which you may be able to do. One day I will bring you some unpleasant and evil person to teach—that I may see if you will love to do good to him."

"They are very near of a size, miss," said Mrs. Pearce. "This one, ARTHUR, is eighteen months older than his brother—he has a little deafness in his left ear, miss—but he will always pay attention if you speak loud to him."

So, the next day, Miss Jane spoke "loud" to him—as loud as he could wish. She put him on her right hand side, and taught him from the spelling book,—"THE HISTORY OF A GOOD BOY."

Every day Arthur read over a new lesson—spelling all the long words, taking plenty of time to think, and going on slowly in his own old jog-trot way. "Papa," said Lucy, one day, as he came in to see them, this Arthur is a very good boy, but he is a rather 'slow coach;' he has no idea of 'making haste.'"

"And what sort of a boy is his brother Alfred?"

"Not near so good as Arthur. He cannot sit still one half-minute—but, he is very quick—and he is a strange boy to learn. He has no sooner read half a page, than he wants to begin the next. He tries very hard to get on *quickly*, but often has to go back again. He does not seem to keep to one thing long."

"Then," said her papa, "if you will come to me this evening, I will tell you how to manage these boys. You must take great care with Alfred, or he will not make much progress."

* * * * *

Twenty years passed away. *Arthur* and *Alfred* had grown up to be men. *Miss Jane* was a married lady; and had two boys of her own to love and to teach.

"Want a porter, ma'am?" said a shabby man to her one day—as she and her two boys were leaving the Southampton steamboat. But as he was going to lift the box, he saw the name and address; and as they turned round for some other parcels, he put down his load, and they missed him in the crowd.

"That was a curious porter, mamma!" said her little son—"What made him run away?" "Why," said Mrs. ——, looking very sad, "I just saw his side-face, and he looked much like my old merry pupil, who so often tried to learn *very fast*. We will call this afternoon to see his mother, Mrs. Pearce."

Mrs. Pearce, in the afternoon, gave them a sad tale. "Arthur, ma'am, God bless him!—he lives over the way. That's his shop! the stationer's, with the name 'Pearce' over the door. He is in a very comfortable way, ma'am. He went on slowly at first, with a small shop, always keeping back part of the money he had saved—and now, after a long *up-hill* time, he has a good business, and allows me 16s. per week.

"But Alfred, poor fellow, oh, ma'am, he tried very hard—*too* hard—to get rich. With the money his aunt left him, he opened a large grocer's shop, and printed thousands of bills to make the people know it. He had horses and carts, with men to call for orders at different 'districts'—and people were astonished to see how *fast* he got on! But, I can't say how it was, ma'am, he did not go on very long—for he found one day that he had spent all his money, and owed some to other people—so he was obliged to sell his business to pay his debts.

"Then, ma'am, he became clerk in a ship-broker's office, and his master said he was the cleverest man in the place. He worked at the business early and late, and tried very hard to improve the trade. So, in the course of two years, he became the *head clerk*, and his master promised to make him a rich man. But, just then, he began to feel tired. He called the business 'slavery,' and said that he knew a quicker way to get rich. So, once when he would not pay attention, he and his master had a great quarrel, and he lost his place.

"Then, ma'am, he tried a 'fast' way to get rich—by making *speculations*. He took some shares in a bank, and became richer than before. He bought some land, and built two houses. I don't know how or where, ma'am, he got the money; but he seemed to be getting pretty rich when, all at once, I heard that he was in prison, and was ruined.

"And oh, ma'am, there came more and more troubles, until he became a very poor man; and was obliged to get his living any way."

"I'm sorry to hear that! When he was a boy, I taught him, so that he might be able to *help* you."

"Ah, then, ma'am, instead of that we have to help him.

"His brother sometimes gives him a little writing; but now, ma'am," said Mrs. Pearce, with tears in her eyes, "my fine boy is a ticket-porter. All day long he carries parcels, and drinks beer."

"Poor man! Then it *was* your son, whom we saw on the pier, and who wanted to carry my box. Please give me his address, and I will go and see him. I am afraid, now, that there is little hope of doing him good. He has the *habit* of going too fast, and it always is so—'HE THAT RUNS FAST WILL NOT RUN LONG.'"

ASPIRATIONS OF YOUTH.

HIGHER, higher will we climb
Up the mount of glory,
That our names may live thro' time,
In our country's story;
Happy when her welfare calls,
He who conquers, he who falls.

Deeper, deeper let us toil
In the mines of knowledge;
Nature's wealth and Learning's spoil,
Win from school and college;
Delve we there for richer gems
Than the stars of diadems.

Onward, onward may we press,
In the path of duty;
Virtue is true happiness,
Excellence true beauty;
Minds are of celestial birth,
Make we then a heaven of earth.

Closer, closer let us knit
Hearts and Hands together,
Where our fireside comforts sit,
In the wildest weather;
Oh, they wander wide who roam,
For the joys of life from home.

Nearer, dearer bands of love,
Draw our souls in union,
To our Father's house above,
To the saints' communion;
Thither ev'ry hope ascend,
There may all our labours end.

TRAINING-SCHOOL SONG BOOK.

REJOICE, REJOICE.

REJOICE! rejoice! the summer months are coming;
Rejoice! rejoice! the birds begin to sing;
When joy bursts forth in songs of praise,
And hills resounding echoes raise.

Rejoice! rejoice! the budding flowers are bursting;
Rejoice! rejoice! their fragrance fills the air;
When roses bloom, and daisies grow,
And woodbines twine, and violets blow.

Rejoice! rejoice! the summer days are passing;
Rejoice! rejoice! for sweets they now impart;
The cooling morn, the sunny day,
Which balmy evening wears away.—IBID.

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK

(*Continued*).

M. Now, Willie, look again at the picture; tell me what other bones you observe in your "Trunk."

W. Several, mamma. Here is a large flat bone in front, called *The Breast bone.*

Here are several roundish bones, called *Ribs*.

There is a pair of flat bones behind, at the top of the back.

M. They are called "Shoulder bones."

W. And here is a pair of little round bones, joining the breast bone to the shoulder bones.

M. They are called "Collar bones."

Ion. Mamma, I can feel all these bones in my body. I can feel my spine, breast bone, ribs, my shoulder bones, by putting my hands behind me; and my collar bone—ah, it is just under my collar.

M. We will now examine the bones, one at a time, and describe them.

Ion. The Breast bone is a long flat bone, to which the ribs are joined.

W. The Ribs. They are curved bones—they begin at the Vertebræ in the spine, and end at the breast bone in front; so they join, or *connect*, these two bones together.

They are arranged in pairs, and each pair is fastened to a vertebra. I will count them; there are twelve pair—the middle ones are the largest. They form a curious hollow shape for the trunk.

L. Yes. Something like the shape of a Tub.

M. This *tub-shaped cavity* contains several important organs—such as your heart, and lungs. You know that when you breathe, your lungs expand, or stretch. These ribs are so formed that they *move with your lungs*. Put your hands round your ribs, Ion, and breathe.

Ion. Ah, mamma! When I breathed, my ribs seemed to rise up a little, and then to fall again. My lungs seemed to get larger, and smaller, and then my ribs seemed to move on purpose to make room for them.

M. The manner in which these ribs move, is very beautiful; but we will not talk about this motion now. Do you see how they are joined to the breast bone?

L. Yes, mamma; they are joined with pieces of cartilage, or gristle. I suppose that is done, so that they may move easily.

Ion. Not *all* of them seem to be joined to the breast bone; the top ones are—one, two, three, four, five, six, *seven pair* are joined to this bone, with gristle. The three lower pair seem to be joined to the *gristle of the seventh pair of ribs*. Then, the two lowest pair—they do not seem to be joined to anything; they are loose. They make, altogether, twelve pair of ribs.

M. Yes. These seven upper pair of ribs, which are joined "directly" to the breast bone, are called True Ribs; and, the five lower pair are called False Ribs,—that is, the three pair joined to the true ribs, and the two lower pair, the loose ribs. (They are sometimes called *floating* ribs.)

So that we have seven pair of true ribs—and five pair of false ribs. I ought to have told you that the part of the spine to which these 12 pair of ribs belong, is called

the back. Of the 33 vertebræ in the spine, 7 belong to the neck,
12 belong to the back,
5 belong to the loins,
and the rest to the lower parts of your body. Which of you will now describe the ribs fully?

W. I will, mamma. THE RIBS are twelve pair of curved bones, which are joined at one end to the vertebræ of the back, and at the other end to the breast bone. They thus connect the spine and the breast bone, and form a tub-shaped cavity, which contains the heart, and the lungs. The seven upper pair of ribs are joined to the breast bone by cartilage, and are called *True Ribs;* but the five lower pair are only joined by cartilage to the seventh rib, and they are called *False Ribs.*

M. Very good, Willie. Now, let Lucy notice the shoulder bone, or shoulder *blade,* as it is called.

L. The SHOULDER BLADE, mamma, is a flat bone, nearly the shape of a triangle, at the upper part of the back. The narrow end, I see, is joined to the top of my arm. There seems to be a round hole for the round end of my arm to fit into.

M. This round hole is called a *socket.* Perhaps, when we have had a shoulder of mutton for dinner, you may have noticed this socket at the end of the blade bone, where it is joined to the shank bone.

Ion. Now, I will describe the COLLAR BONES, mamma. They are thin round bones at the top of the breast bone, joining it to the shoulder bones. I should think they must be very useful *to keep the shoulders apart,* or else they would fall together, or get too near to each other.

M. That *is* their use; but not all collar bones are alike. As we proceed with the Natural History, you will see strange differences in the collar bones, and indeed in other bones of animals, according to the different circumstances they are placed in.

A *Bird,* who uses its fore limbs, or wings, to fly with, would soon knock its shoulders together with the flapping of these wings, so it has a *double* collar bone—just like two collar bones.

A *Horse,* who uses his fore limbs to trot on the ground, *has not any collar bone.* We will find out the reasons for these things one day.

Now for 'the Lesson.'"

Lesson 9. THE FRAMEWORK OF VERTEBRATED ANIMALS (*continued*).

(5). *The other bones of* THE TRUNK, *are a long flat bone in the front, called the* BREAST BONE.

(6.) *Twelve pair of curved bones, joined to the spine and the breast bone, and called Ribs — the seven upper pair are called True Ribs; and the seven lower pair are called False Ribs.*

(7.) *A pair of broad, flat, triangular bones, called* THE SHOULDER BLADES; *and*

(8.) *A pair of thin, round bones, between the breast bone and the shoulder blades, called* THE COLLAR BONES.

THE SAXON KINGDOM.

EDRED, EDWY, AND EDGAR.

P. You heard last week of the dread power "superstition," which kept the minds of the Saxons in darkness.

When Edred came to be king there was one man amongst the priests who had determined to become a "saint." This man was named Dunstan—the same whom I spoke of when you heard of the trades which the clergy practised. In order to be called a saint, he knew that he must pretend to have had messages from God, and, to have done extraordinary things.

Ion. Miracles, I suppose.

P. Yes. I should hardly like to tell you half the wicked inventions of this man—they are too foolish for children to hear. I will just mention one or two.

One of his tales was, that when he was very ill, an angel brought him, in bed, some medicine, mixed up in heaven—that he was going to church to thank God, when the devil and some black dogs tried to prevent him, but another angel caught him up, and popped him down a hole in the roof.

He made another tale—"That he was working quietly in his cell, when suddenly the devil put in his head, and asked him to make him something, and that he—*Saint* Dunstan—seized the fellow by the nose with his red hot tongs, and made him roar horribly."

Many more such accounts he gave of adventures which no one had seen but himself; and of wonderful miracles—and the poor people believed them all to be true. So Dunstan was called *a Saint.* He was also an *Abbot*, which means a chief man amongst the Monks; and, in time, he became an *Archbishop*, which, you know, means the chief of the bishops.

The King, too, as well as the people, believed him; and almost everything that Dunstan told him to do, he did. Dunstan then made a law that every man who became a priest should not have any *wife;* and forbade any of the clergymen to get married—but, not all of them obeyed him.

This man had such great influence over the king, that the king gave him the charge of the Treasury of England; the place where the money is kept.

EDWY.

When Edred died, Edwy, his nephew, was placed on the throne. He found out that Dunstan was a rogue, and that he could not give a fair account of the money which belonged to the Treasury in Edred's reign. So he told the people that Dunstan had been stealing, and banished him from the kingdom.

Edwy had also been provoked to banish this man by his impudent behaviour. He had married a beautiful princess, called Elgiva; and Dunstan declared that he should not do as he liked, and tried to prevent him.

But now that Edwy had banished Dunstan, he found that he had provoked most dangerous enemies.

The Monks, everywhere, called him a *heretic.* They stirred up the people with tales about the holiness of Dunstan, and made the whole nation in an uproar. And, now they did a most wicked thing; they sent soldiers to the king's palace, who dragged off his beautiful Elgiva, marked her face with a red hot iron, and carried her away from him, to Ireland. Soon after, when the dreadful scars on her poor face were better, she tried to return to her husband. Then these wicked priests discovered her on her way, caught her, and caused her to be cruelly *murdered!*

I feel shocked to tell you of such dreadfully inhuman deeds; they hardly seem fit for you to hear. And yet, so blind were the miserable Saxons, that they considered this cruelty of the monks to be a judgment from God upon Edwy and Elgiva for marrying against the will of "the Church."

So, the monks then called Dunstan back again to England; and, soon they were strong enough to drive Edwy away from his throne, and make his little cousin, **Edgar**, to be king instead.

EDGAR.

Edgar was a boy only 13 years old; but when he grew up to be a man he became a brave king, kept the kingdom in good order, and kept away the Danes. So great was his power that he once caused himself to be rowed in a barge by *eight princes* who were subject to him, and paid him tribute.

He was remarkable, too, for his love of hunting, and, for his care in clearing the country of wild beasts. He and his soldiers hunted the wolves here until they completely drove them out of England—so that, the Saxon farmers, now, were not afraid of having their sheep stolen, and their children killed. The king found, however, that great numbers of the wolves had run away, and hidden themselves in the mountains and forests of Wales; so he thought of an excellent plan to get rid of them. The Welsh people having been conquered by the English, were obliged to pay them a large sum of money every year as *tribute.* So, the king said to the Welsh—"In future, instead of paying me your tribute in money, you may bring me *Wolves' heads*—300 every year." The Welshmen then were very glad to save their money, and set to work to kill the wolves every year, in such earnest, that soon, none remained to be killed.

King Edgar, although clever and brave, was not, I am sorry to say, a good king. As Dunstan and the priests had made him king, he was so foolish as to believe all they said to him, and to let his mind be guided by them. You will not wonder that he did some wicked deeds. He murdered a nobleman that he might have his wife for himself; and,—ah! I had better not tell you any more dreary tales of wickedness.

He was a brave king, but, being led by cruel and superstitious men, he did many shocking actions.

He died in the year 975.

TO A RED-BREAST.

Little bird, with bosom red,
Welcome to my humble shed.
Daily near my table steal,
While I pick my scanty meal;
Doubt not, little though there be,
But I'll cast a crumb to thee.
Come, my feathered friend, again,
Well thou know'st the broken pane;
Ask of me thy daily store,
Ever welcome to my door.

WATER.

M. You did not finish your "description" of *Water* last week.

W. No, mamma, we only gave you its *qualities;* but I have thought of three more qualities since then. If you put a ship on the water, you know it will float—the water will bear it up.

M. Yes; and that quality you will find in all liquids. Because they have this quality, you may say that they are *buoyant.*

W. And, again, mamma, if you poured some water on a piece of sugar, it would get between the particles of the sugar, and separate them—just as the liquid, *Tea*, or the liquid, *Coffee*, would.

Ion. You mean it would *dissolve* it.

M. That is what Willie means; and, because water dissolves substances, it is said to be *solvent.*

W. Then, tea, and coffee are solvent; and all liquids, I suppose, —gin, and brandy.

M. Yes. But gin and brandy are *spirits.* They are strong solvents, and will dissolve substances that cannot be dissolved in water. Water will not dissolve *camphor*, but spirits will.

W. But, mamma, I have thought of a third quality. Before the water can separate the particles of the sugar, it must *work its way in between them*—"soak" in, I mean. All thin liquids will do this. If you pour water or beer on the floor, how soon it soaks between the fibres of the wood!

Now, because it *separates* the particles of a thing it is called *solvent;* but, because it soaks between them so easily, what is it called?

M. The proper thing to say is, that it is *penetrating*—all liquids penetrate.

Ion. And *fluids* which are thinner than *liquids* are very penetrating. Air is. How the wind penetrates, even through a cloth coat, and makes you cold; and so does smoke.

W. Yes; but I was thinking of the qualities of the water. Because it is liquid, it is *penetrating.* Because it is penetrating, it is *solvent.* And, because it is solvent——

Ion. Ah, that will show us one of its *effects.* Because it is solvent, we take the water-jug in the morning, pour some water into the basin, and put our hands in it. Then you know what happens. The water penetrates between the little cracks of our fingers, dissolves the dirt, and carries it away. So there is an effect—it is cleansing. And we may say the first effect is this, mamma,—it is liquid, penetrating, and solvent; *therefore,* it is cleansing. Now for some more effects.

W. We can soon discover its other effects. I will drink it all up, and will tell you how I feel. We do not want to observe it any longer: that is, we do not want to observe with our *senses*—so I'll drink it.

Ion. Well, Willie, how *do* you feel?

W. I can't tell yet. Why, I feel that it is rather *cooling*—that is an effect! And I think I'm refreshed a little after talking so much. It is *refreshing.*

I'm not *stimulated* very much—not at all, I think.

L. But, Willie, if you were to faint, and I threw some on you, it would stimulate you.

W. Yes—then it would revive me! The coldness in it would do that—so it is *reviving*. That will make four effects.

M. And again, Willie, I'll tell you something. When you were about four years old, you were rather a weak child; so I took you to Broadstairs, and bathed you in the Sea-water, until it strengthened you.

W. That was very kind of you, mamma. And the water produced an effect, certainly; for I am very strong now—it is *strengthening*.

L. And when water comes down from the clouds, Willie, it produces an effect on the flowers. It strengthens them—or, at least, it improves the earth, so that they grow better.

M. Yes. It makes it more fertile; or, it fertilizes it, as we say—so it is *fertilizing*.

W. That will make *six different effects* altogether, mamma! Please to let me say them. Now—Because the water is liquid, it is penetrating, solvent, and cleansing. It is also cooling, refreshing, reviving, strengthening, and fertilizing.

Ion. And now, mamma, may I give a full description of water? I will say all the properties and effects that we have discovered.

I have written them all in a string, on a piece of paper, and they make a very long account.—Listen—

WATER is
thin,
fluid,
liquid,
bright,
sparkling,
clear,
transparent,
tasteless,
inodorous,
inanimate,
inorganic,
and reflective.
Because it is
liquid, it is
penetrating,
solvent, and
cleansing.
It is also
cooling,
refreshing,
reviving,
strengthening,
and fertilizing.

There, mamma! and that is a "true account" of the water.

M. I think you have described it very fairly, although there are some properties which you have omitted. But, do you think this is such a description, that if you were to say it over slowly to any man who had never seen water, he could form an idea of it in his mind?

Ion. Yes, mamma—I think so. That is, if he knew the meaning of the words. But I should hardly think that a blind man *could* know the meaning of the word "Liquid." If you were to say to him—"Its particles hold together enough to form a drop," he would say to you, "Please to say it over again," and he would try and think in his mind how it looks. But no; I do not think any one could *imagine* such a thing as water!

M. Nor do I, Ion. A man must see water to know what it is. Well, we have more to learn about water yet. We have to notice what men can do with it, because it has these properties and effects.

You may depend upon it, that every *quality* in the water was put there for some good purpose or another.—We will finish our lesson next week.

THE TRAVELLER THROUGH ENGLAND.

WINDERMERE.

My dear Children,—

It would take too long a time to tell you of all that Peg and I saw, on our road from Ullswater to Windermere. We stopped at a rich and lovely dale called *Troutbeck*—so called from the *beck*, or brook, flowing through it.

We stood on Troutbeck bridge, and tried to get a good view of the lake, of which I had caught many fine glimpses already; but it was too late in the evening now, to see anything distinctly; so I resolved to sleep at the inn here, and start again the next morning.

"Take the road to *Low-Wood Inn*, sir! and, just about a mile before you reach there, you will get a view of the lake. It is the *best* view, too, sir, except that of Rayrigg bank."

As Peg walked comfortably along, I was busy observing more strange shapes in the mountains, though some of the distant ones were still surrounded by clouds. The mist, however, cleared off rapidly—and just as the sun was brightening up, I found myself on the highest part of the road, where a most splendid prospect suddenly burst upon me.

There, spread out before me, was the clear bright sheet of water, larger than that of Ullswater, dotted here and there with islands, and presenting an appearance too beautiful for me to describe. From the place where I stood, nearly all the Islands could be distinctly and clearly seen. I found that, altogether, there were *thirteen*. One of them, which was called "Curwen's Island," was much larger than the others, with a white, round-topped building upon it. It was covered with fine woods, and edged all round with rocks.

It is of no use for me to try and give you an idea of the beauty of the lake. You cannot *imagine* the reflections of the dark purple shadows in some parts—and the bright gleams of sunshine which gave the rest of the water the appearance of glass. Think of a sheet of glass several miles in length! You cannot imagine the beautiful reflections of the blue sky, and the white "flying clouds" which seemed to be chasing each other over the hills, and, in the water at the same time.

I watched the fishing boats moving lazily and quietly along the edge of the distant shore; and two little sailing boats belonging to gentlemen living in the island. There were large flocks of wild fowl, which frequently sprang up from the rocks in the smaller islands, and then, after wheeling round and round in the air, and flying about for some time, settled down on the lake; some of them swimming together in groups; some forming long rows or *files*, following each other, and never keeping in a straight line, but cutting all manner of figures on the surface with the tracks they left behind them; whilst others were dipping head first into the water and rising again—making "somersets"—flapping their sides—splashing themselves—skimming the bright surface rapidly—plunging once more into the water, then, out again—and so, continually "sporting on the wing."

The scenery around the lake also delighted me;—but, as I said, I cannot describe it. Words can give you no idea of the distant hills, or "pikes," as they are called, rising above each other in long lines of blue,—of the lines of *grey* hills which were nearer,—of the glad *green* on those which were nearer still,—of the dark green shades, and deep blackness in the thick woods around them,—of their rich tints of olive-green, yellow, dark purple, and brown,—of the beautiful mansions with their smooth velvet lawns, which now and then peeped out, with sometimes a fresh yellow buttercup meadow, dotted with cows and sheep. But, there! again I cannot describe it, dear children, and can only say, as I once read in a book—

"It would be mere vanity to try and describe a scene which beggars all description. Taken altogether, it may be compared to a looking-glass of immense size, and rude shape, set in a huge frame, adorned with the grandest carvings and lace-work in a variety of the richest colours, and all the beauty of nature's perfect workmanship."

So, as I sat looking and wondering—forgetting Peg and myself—feeling only how calm and heavenly were the works of God—Lo! —PUFF! PUFF!—another cough—and then another—with a strange wheezing noise. Then the noise of a fiddle, and a harp, with a heavy cloud of black smoke from behind a rock projecting into the lake, told me that the *works of man* were near, in the shape of the steamer "Lady of the Lake." She was filled with all sorts of noisy folks from Manchester, who had come up by the last "Excursion train." So, although the *steamer* looked pretty, as I did not like the fiddle and noise, I went away to breakfast.

I cannot tell you of all the places I saw on the next day; but I would just say, that one part of the lake is very narrow; and there is a ferry-boat, in which the people cross to the opposite shore. After stopping at the ferry-house to take dinner, I hired a little skiff, and two men, and had a delightful row across the water, to the large island, called Curwen's Island, or Belle Isle.

One of the watermen walked with me round this beautiful place, on a gravel path, nearly two miles long. We then walked up the hill, to the stately mansion, and stopped at a point from which may be seen one of the grandest, the most magnificent landscapes which England ever presented to the delighted eyes of a traveller.

On our return, the watermen gave me some information about the *fish* in the lake. It not only abounds with trout, but with a fish called *the char*. This fish is about twice the size of a herring—of an olive green at the back, while some of its lower parts are white, and others, especially the fins, of a bright red colour. They said that not everybody was allowed to fish here, but that the lake was divided into five large districts.

The owners of the lake *let* these districts to the fishermen, who pay so much money for rent every year,—just as your papa pays rent to "the landlord" for his house. These men told me, too, of the great clouds and heavy showers which come on so suddenly, and of the violent squalls of wind, which raise waves on the lake, and storms, almost as fearful as those on the sea.

W. Just like the waves on the Lake we read about in the Testament, when Christ's disciples were tossed about so.

After wandering about on the

shores of the lake, and visiting some of the smaller islands, or Holmes, as they are called (for "Holme" is the *Saxon* word for island), I reached the southern end of the lake, crossed Newby bridge, and set out for the large market-town KENDAL.

On my way, I picked up some information on the "soil" of Westmoreland, which you may like to hear. It appears that this county derives its name from the wide, open moors on its western side—larger than those of Cumberland—where numbers of geese are fed. Other birds, called *grouse*, which sportsmen are fond of shooting, are also found in these moors.

I had almost forgotten to tell you something I had noticed on the road, which we will put in the history of the county's "surface."

Some of the old mansions here, and many more of the farm-houses which I passed, were built, not of clay, or bricks, but of strong *stones*. These houses were surrounded by large yards, with very thick and high stone-walls. On making inquiry, I found that most of the houses were built, perhaps, 400 years ago, in the time before England and Scotland were made into one kingdom.

At that time, Westmoreland being a *border country*, like Northumberland, there were very frequent fights and "frays" here. House burning, and robbery was continually happening, for the hills were infested with robbers. These border robbers, who were sometimes English, and sometimes Scotch, were called *Moss Troopers*, and they procured their food by coming down on the plains at night, and carrying off the cattle and sheep by force. Therefore every farmer was obliged to fortify his house; to drive in his cattle and sheep from the fields, before evening time; and to shut them up in his strong courtyard, for protection, where they were guarded by strong and faithful watch-dogs.

Both Peg and I enjoyed ourselves so much in this part of the country, that we were not anxious to reach Kendal until evening. There, just after supper time, I made some "Notes" on the different places we had seen—but I am really so tired and sleepy, dear children, that I don't think I *can* sit up to copy them. You shall have them next week.

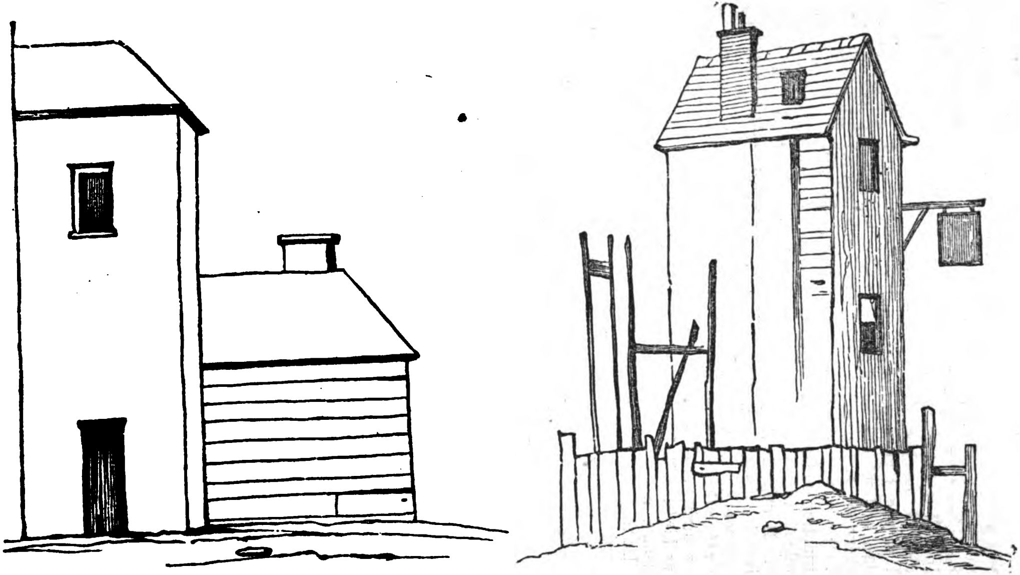
Good night, dear children!
Your faithful friend,
HENRY YOUNG.

OLD ENGLAND.

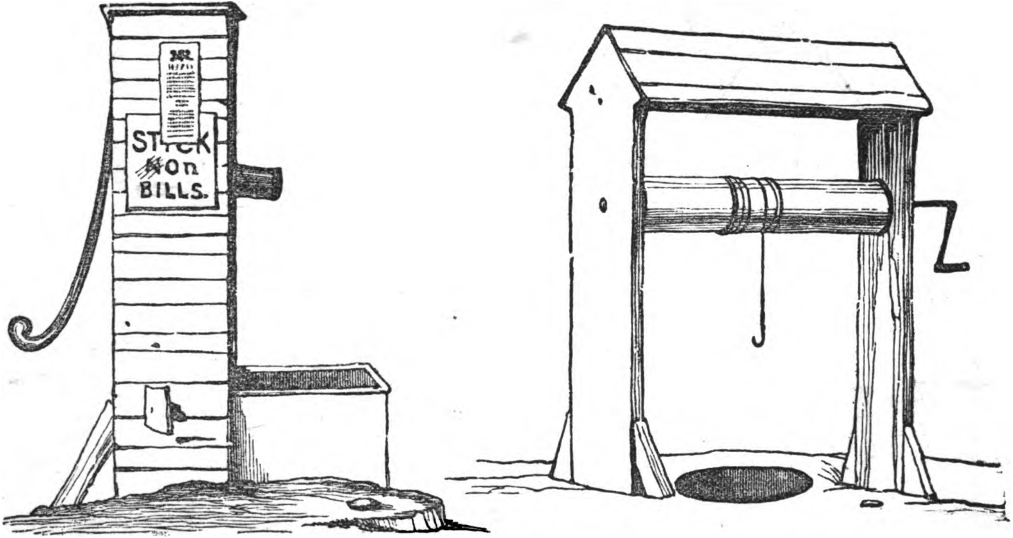
OLD England for ever!
No power shall sever
My heart from the land of my birth.
'Tis the land of the brave,
Which none shall enslave;
'Tis the happiest land upon earth;
'Tis the happiest land upon earth;
'Tis the land of the free;
So it ever shall be,
Which no earthly power can bind;
Ere Britons be slaves,
She shall sink in the waves,
And leave not a vestige behind.

If the African stand
But once on her strand,
That moment his freedom he gains;
A captive no more,
He leaps on her shore,
And breaks from him slavery's chains;
And breaks from him slavery's chains;
Dear land of my birth!
Brightest spot upon earth!
From thee my heart never shall roam;
But gladly I'll prize,
The blessings that rise,
From England, my country, my home.

TRAINING-SCHOOL SONG BOOK.



Trapeziums, Rectangles, Parallelograms, &c.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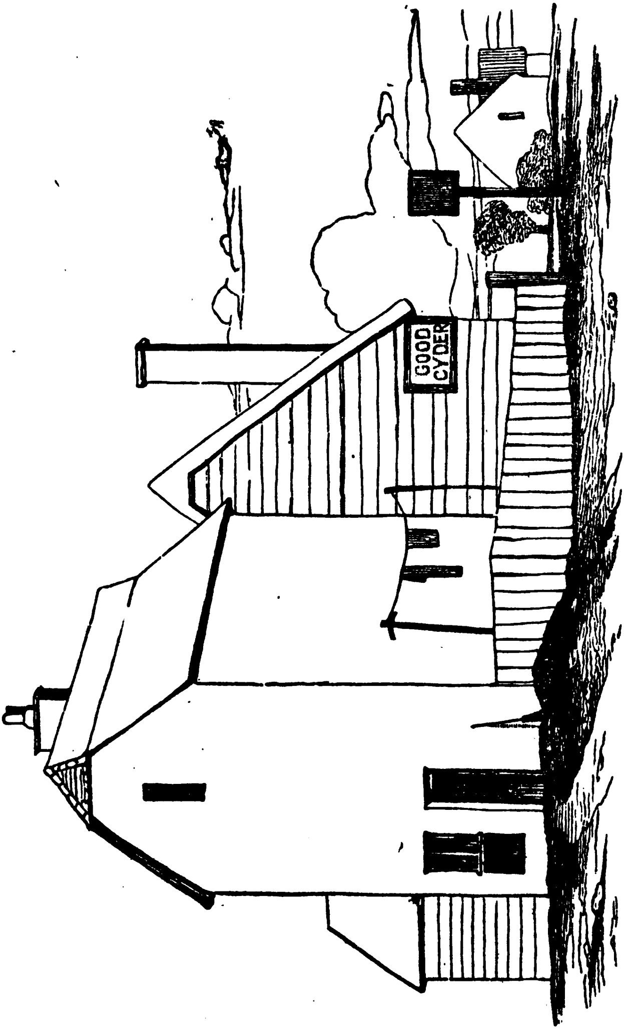

GOOD
CYDER

PLEASANT PAGES

FOR THE

15th Week. MONDAY. Moral Lesson.

HONESTY.

INTRODUCTORY LESSON.

L. Are we to have another proverb to-day, papa?

P. Not to-day. We will now begin another *course* of lessons—and, when we have finished it we will learn some new proverbs for a change.

W. The last course was on TRUTH.

P. And our new course will be on a principle which is very much like truth.

Ion. But—what is a *principle?*

P. Ah,—there we must stop. Let us consider what a principle is, and understand it properly. This is why you must consider. A principle is a *very* important thing. It is of no use for you to grow and be men, unless you have learned some good principles. You had better *die!* But when you get some "principles;"—if they are good ones, you will be happy and all men will love you. If they are *bad*—then you will be miserable, aye, and all men will despise you! It will not matter how *learned* you are,—no matter how *rich* you are—you will never "hold up your head like a man," but as you sneak along the street, people will point to you and say—"Poor fellow, no one respects him, he has *no principles.*"

W. Oh!—then, please make us understand what principles are, papa.

P. Well! You remember the moral tale that Ion made up—how Lucy and Ada beat two hard-working boys in weeding the garden.

W. Yes, because they went on slowly, and with such care.

P. And it was the "going on slowly" which made them succeed so well. It was a *principle* in them which made them work slowly. We call it the *cautious principle.* It is a principle which children do not learn very soon.

W. No, papa—at least boys don't. I'm never cautious.

Ion. And girls do not always. That was why ROSAMOND made excuses. She had not learned the cautious principle, and spoke too quickly.

W. That was why ROSE spoilt that tune when she was playing it. She *played* in such a hurry, and had not learned the "cautious principle."

Ion. That was why Mrs. Pearce's son ARTHUR became so poor,—he tried to get rich too fast, for he had not learned the "cautious principle."

P. The "cautious principle," then, would have been useful to Rosamond, Rose, and Arthur. You know how useful it was to ALFRED, Mrs. Pearce's other son.

L. Ah! It was that principle which made him succeed in his business. Why, a principle is as good as money;—perhaps it is worth more, now I think about it;—because ARTHUR had a great deal of money left him by his aunt.

P. Yes, principles are worth more than money. Listen—

Our grocer has a large shop, and he does more business than the other grocers.

"Yes, sir," he said to me one

day—"my prices are just as high as any other grocer's—quite as high as old Scroggins's. But then, I always sell *good* things. I don't want to get a large profit, so I always sell the best articles I can find, *and treat everybody very well.*"

L. That is a *principle*—a good-natured principle.

P. Yes. He called it a *liberal* principle, which means the same thing—"I do business, sir, on a liberal principle," he said to me.

And "old Scroggins"—why, he only gives his customers common sugar for fivepence;—and sells other common articles because they do not cost him so much as good things. So he thinks he will make more profit, and will get rich sooner.

L. That shows that he only thinks about himself. Then that is an ill-natured principle. You would say it is *un*-liberal, I suppose.

P. No, the proper word is *il*-liberal. That is what we call a man when he cares too much for himself, and not enough for others.

These two principles are not so important when they are only principles of trade. Yet, see what they *do!* They make one grocer rich, and the other—

W. *Poor!*—What a poking little shop Scroggins's is.

P. Here is another principle. At Islington, where your uncle lives, there were once a great many omnibuses—brown, white, yellow, and green ones. But the green omnibuses, "The Favorites," began to be different from all the others—for, as regularly as the clock struck eight, one of them would pass the end of your uncle's street,—then, twenty minutes afterwards came another—and another exactly twenty minutes after that; and, so on. They were always *true to their time*, so they beat all the other omnibuses.

Ion. Ah, they were regular!—or "punctual," that is the word to use. That is a principle—Punctuality. I think I see now what a principle is—it is a *sort of rule.* A man finds out a plan which is right and good. Then he says to himself, "That is a good plan—I will keep to it always"—so he makes a rule of it.

P. Yes, and thus it becomes one of his principles. But—oh, there are greater—far greater principles than those which we have been talking about.

W. I think I know one, papa; I have just thought of it. There are two boys in our school who *never quarrel with anybody.* They are brothers. If anybody treats them badly they are kind to him, and that is their rule always—their principle. And now all the boys in the school are their friends;—they have not any enemies.

P. Ah, that is the principle of LOVE. The principle which brings peace on earth and good-will towards men. Love brings peace.

W. Yes, papa. Peace is the *effect* of love; we have been learning about "effects" lately. LOVE was Alfred's principle when he had conquered the Danes—and so there was peace.

Ion. And it was Athelstane's principle. Don't you remember when he had conquered those three kings, how he treated them with kindness? It had the same effect.

L. And when he gave the Welsh king his kingdom again, he made peace. Ah!—if we could make an "Object lesson" on LOVE, we might find out many more effects perhaps.

P. Yes; a long time hence,—when you are much older—we will make lessons, like your Object lessons, on "principles." Then we will find out their qualities, and effects too.

Ion. Then, we should find, of course, that there are good and bad principles.

P. True, Ion. And all the principles you have, make up what is called your *character*,—so now, perhaps, you can tell me why you learn "Moral lessons."

L. I can tell you, papa. You want us to see which principles are good, that we may learn to be good characters.

Ion. Yes—good *moral* characters—I have heard about "moral characters."

W. And there are *religious* characters, too.

L. I think I can tell, papa, which of the principles we have been talking about are good ones—

The *cautious principle* is a good principle,
The *liberal principle* is a good principle,
The *principle of punctuality* is a good one—and
The *principle of love*—

P. Ah, that is a higher principle than the others. All moral principles are parts of religion, but love forms a *very large part* of it.

Yes, dear children. Love is the great principle of the great God!—and, when His Spirit shall help you to think of His wonderful goodness, and shall thus help you to feel His love, you will easily learn LOVE TO GOD. This is the highest principle of all. You were put down in this world on purpose to learn it. Shall I tell you what you will do. then?

L. Yes, dear papa, please.

P. Then, you will be full of gratitude to him for saving you, and making you his children—and, you will say, "I will not try to get moral principles only to please myself,"—but, "I will try and find out every good principle that I may be better fitted to serve God. I'll show him my love by trying to please him." Then I shall know that you are "taught of God" and are religious characters.

Now, understand this difference—If you try to get good principles for your own good, then you will be—

W. Moral characters.

P. But when God has taught you to learn moral principles that you may serve him, then you will be—

Ion. Religious characters.

P. Remember this, Ion, and all of you. Do not stop by learning to be moral characters, but ask our Father to teach you that you may always live to His glory!

L. Have you finished, papa?

P. Yes. There are many more principles to talk about—but, we shall find them out as we go on. They all spring from the one grand principle we have already been learning, which is the foundation of the others.

L. You mean the principle "TRUTH," papa,—but how can it be the *foundation* of good principles?

P. I will answer that question for you next week, when we have our first lesson on Honesty. You will see then how truth *leads* to honesty, if I can make you understand it.

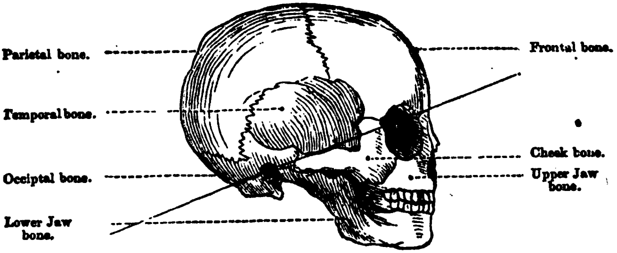
VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK—THE HEAD.

M. Come, Willie, sit down—we have looked at the bones of your *trunk;* pray, sir, which part would you please should be examined next?

W. I think that my *Head* is the most important part of all; I said so at first. . please to make some remarks on my head.

M. Very well. Papa has made a drawing of the bones of your head for you. Here it is.



He has also made an "oblique line" on it, to show you how it may be divided into two parts. Will you look carefully at the picture, and tell me what is the exact position of this line.

Ion. I will, mamma. The oblique line begins at the ear, and slants in an upward direction, across to the eyebrow. So, it divides the head into two parts. What is the upper part called?

M. The upper part is called THE SKULL.

W. And the lower part—

M. Just put your hands upon that part of your head!

W. I *feel* now—it is my face. So the head has two great parts—

1. The Skull.
2. The Face.

M. You know, I dare say, what very important *organ* is placed inside your skull.

W. Yes, mamma—my Brain.

M. Think, then. This skull is formed as a case for your brain. Cases are generally used for preserving things; and, as the brain is such an important organ—

Ion. It deserves a very good case to protect it.

M. You may be sure, as God made this skull, that it is the best case which could have been made. So, now we will set to work and think about it. The object of the skull is to protect the brain—what is there in the skull which makes it so well fitted for its object? Suppose you notice, first, its different parts.

W. I will, mamma. The parts of the skull are, 1st, the bone in front—the forehead bone.

M. Or, you may say, "The frontal bone."

W. And, here, behind the frontal bone, is a larger bone, which forms the sides of the skull, and the top. There are two, I suppose—one on each side. They make the great wall of the skull.

M. Yes, they are sometimes

called the wall bones—but more properly "The parietal bones."

Ion. And here is a smaller bone at the back of the skull, in the lower part.

M. That bone has a long name, which you must take pains to remember—it is called "The Occipital bone."

L. And here is a bone at the side of the head, below the parietal bone.

M. That is the bone of your temple—it is called the Temporal bone, from the Latin word, *Tempora.*

Here is the first question for you,—*Why* should the skull consist of these three bones, instead of being all in one piece?

W. I can't tell, mamma, and I'm sure that I have been thinking.

M. Perhaps, then, I had better tell you. Suppose that the skull consisted of one piece. Then, if I were to strike your skull, the blow would be felt throughout the whole of it—but, now, if I strike your frontal bone, it will be felt *only* in that bone, and not in the others, because they are separate.

Ion. Ah! that is a very good plan.

W. And I have been noticing those bones, mamma. How curiously they are joined together.

L. Yes, they have edges something like those of a saw, or the edge of a rose leaf.

M. Such edges, from the Latin word *serra,* a saw, are called "Serrated" edges.

Ion. And these edges fit in between each other, or are *dovetailed* together, as the carpenter would say. That is done that they may not easily be separated.

W. Now I will say the first part of the description—Write, Lucy.

"The SKULL consists of four separate bones,—

1. The Frontal bone,
2. The Parietal bone,
3. The Occipital bone,
4. The Temporal bones;—

these bones have serrated edges, and are dovetailed together, so that they may not easily be separated."

L. You have not stated *why* there are several bones in the skull, Willie.

W. No, that does not belong to the description. If we want to know the reason why, we must remember it.

M. Let us next look at the *shape* which these bones give to the skull. Is it a square shape?

Ion. No; if we had square heads, we should always be knocking the corners off. Its shape is round, and the shape at the top is like an *arch.*

M. Let us see if this arched shape is the best that could have been given to it.—We want the skull to be very *strong.*

When men form a railway tunnel, what shape do they find to be the best to prevent the earth from falling in?

L. The railway tunnels *I* have seen, have always been long arches—and the Thames Tunnel too.

W. And they build railroads *on* arches, mamma.

Ion. And they build bridges on arches, too,—I suppose that is because the arches can bear the weight of the carts and omnibuses.

M. Yes, and, perhaps, men learned that an arch is the strongest form from their own skulls. The arch on the top of your head is the best possible form that can be given to it.

W. I think so, mamma, because I often get very hard knocks on my head, in the play-ground at school—but it has not cracked yet. So we will put that down in the second part of the description. Will you write, Lucy?

"The bones form together an arched shape, which form gives greater strength to protect the brain."

M. I should remind you, Willie, that as you grow older you will not be so well able to bear such knocks, and must learn to be more careful. In our first lesson on bones, I told you that the bones of the baby, and of young people, are more soft and elastic than those of men. That is why the baby was not killed last week when he fell from nurse's lap on the floor, with such a violent blow. Such a blow would, perhaps, have killed your papa.

W. Because his bones are more brittle—but, then, they are thicker.

M. No, they are not much thicker, for the quality, *thickness*, would not be a good one for protecting the brain. You know what is meant by *vibrating*—you have seen the wires of the piano vibrate.

Ion. Yes, they shake very quickly, and tremble—so do the harp strings, when they are pulled.

M. And so does your skull when it is struck. Now, if the bones of your papa's skull were very thick, they would vibrate more than if they were thin. If he received a hard blow, the vibration would be too great, and, passing through to the brain, would injure it very much. Such a strong vibration would be more likely to kill him than a wound penetrating the brain itself.

As you become a man, your skull will be beautifully changed to protect you from such accidents. Some of these bones, as they become thicker, actually split into two layers—just as a thick slice of bread is sometimes cut into two thin slices. Then, between these two layers of bone, a very soft substance is formed, which serves to keep them apart.

L. Just as you might put the butter *between* two thin slices of bread, instead of outside.

M. Yes. And this alteration in the bones of the skull almost prevents any of its vibrations from reaching the brain. The skull protects it perfectly. You may think about this. How God takes care of every part of us! He is always caring for us, from the time when we are little children, to the time when we are old men. You can, when you get older, learn more of your skull,—but, even now, you may say from your lesson,

"The skull is beautifully fitted by the Creator for its object, which is to protect the brain."

THE SMILE OF THOSE WE LOVE.

To the rose the sun is welcome,
As she blushes beneath his gleam,
The lily lifts her snowy head
To greet his fervid beam!

There is joy, and light, and gladness,
Where his glowing footsteps rove,
But the sun of *our* existence
Is the smile of those we love!

And what the sun is to the flower,
Still true tho' *he* may rove,
Is that brightest joy the heart can feel,
The smile of those we love!

MRS. CORNWELL BARON WILSON.

THE SAXON KINGDOM.

EDWARD THE MARTYR, ETHELRED, EDMUND IRONSIDE.

M. In our lesson on EDGAR, I told you of one of his wicked acts. He murdered a nobleman, because he wanted that nobleman's wife, who was called ELFRIDA. Now, what kind of a woman must Elfrida have been to marry a king who had murdered her husband?

L. I should think she was very foolish—

M. And even *wicked.* The history books say that she was a proud, cruel woman; and you will find this to be true.

When Edgar died (in the year 975), he left two sons. EDWARD, 15 years old, was the son of his *first* wife; and ETHELRED, a little boy 7 years old, the son of Elfrida. Elfrida wished that her own boy should be king, but Dunstan, who still had great power, said that the eldest son had the most right, and that Ethelred was too young. And the people said so too; so, they made Edward king.

EDWARD THE MARTYR.

Edward was an innocent good king; but he only reigned four years, for I am sorry to say that his wicked step-mother determined to murder him, so that her own boy might reign instead. This is how she did it. Edward was always very kind to his little brother Ethelred, and to his step-mother Elfrida; and one day he came to see her at Corfe Castle. He did not suppose that she would do any wickedness to him, and as he was going away he asked for some wine to drink. Whilst he was sitting on his horse, drinking, Elfrida silently called one of her servants, who went behind him and stabbed him in the back. The horse ran away. Edward soon fainted from loss of blood. He then fell off and was dragged along the ground with his foot in the stirrup until he died. The people were very much shocked at the wicked Elfrida, and I should think must have disliked her very much; indeed, she must have felt very wretched all her life.

There is something, dear children, which you may learn even from this bad queen. Mind, and have nothing to do or say with wicked people. Ask God to make you ashamed of wickedness, and keep you away from it. Say to Him, "Lead us not into temptation."

If Elfrida, when Edgar asked her to be his queen, had said to him, "You are a wicked man, I will have nothing to do with you," *she* might not have become so wretched—but, you see that having once done wrong, she became worse and worse until she was as bad as her husband, and even committed murder her own self.

ETHELRED.

What sort of a king do you think Ethelred would make? Kings are, what other men often are, *just what their mothers make them.* I once read in a French book these words: "Every great man is the son of his mother," which means that he has been attended to more by his mother than his father, or any one else.

Alfred had a good mother, so he was a good king. Poor Ethelred had a bad mother, one who was foolish and wicked; so, what would he be?

L. A wicked and a foolish king, very likely.

M. Indeed he was. He was so

foolish that the people nicknamed him "The Unready;" for, when the Danes came to rob and kill as before, he was never ready to meet them. You will hear soon, how he was so wicked that, when he could not conquer these Danes, he cruelly murdered every one, just as a butcher would kill so many sheep.

L. Ah, he learned *that* from his mother.

M. I hardly feel inclined to trouble you with the history of such a man; but, there are two or three things concerning him which are worth noticing.

The Archbishop Dunstan put the crown on his head, and made him king. Dunstan then made him take an *oath* that he would reign properly; and, thus, Ethelred was the first king that ever took an oath at his coronation.

Dunstan soon after died—for he was now an old man—but he had during the reign of Edgar behaved himself so badly, that he lost his good name at last—few people called him "Saint."

As soon as Ethelred was crowned the Danes came again. The king then tried to drive them back, but could not do so; so, to make them go away, he gave them some money.

This was a very bad plan; for the Danes saw that he only gave it them from fear—that it was not kindness like the conduct of Athelstane—so, they took his money, and laughed at him; and, the next year they came back for more, travelling over the country, and killing the people until the money was given to them. Once he gave the Danes £10,000; again, £30,000; again, £36,000; and then £48,000 after that.

Thus, the Danes who were living in England became insolent, idle, and lazy, living like Lords, in what was then called the height of luxury; for, it is said that they *combed their hair once a-day*, bathed once a week, often changed their clothes, and were called Lure-danes, or LORD DANES.

Then, when Ethelred could not get rid of them, he committed the wicked act I told you of. One Sunday, the 13th of November, 1002, when it was their time for bathing, he caused them all—men, women, and children—to be put to death.

Wickedness leads to wickedness—murder leads to murder—war brings more war. So when SWEYN the King of Denmark heard of this act, he declared that he would not rest until he had murdered some English, for "revenge." He came with a large fleet of ships, attacked the English with more fury than ever, slaughtered thousands; and, after some years, he drove Ethelred from England into Normandy, and took possession of his kingdom.

It happened however, that, about six weeks afterwards, Sweyn died, and Ethelred returned. As soon as he regained his throne he was attacked by Sweyn's son, CANUTE. He struggled with Canute for a few years, and then died—despised and disliked as much as his mother.

EDMUND IRONSIDE.

At Ethelred's death, Canute had nearly conquered England; but Edmund, the son of Ethelred, was as brave and strong as himself: indeed, he was so brave that the people called him *Ironside.*

It was therefore agreed, that Canute, the son of Sweyn, should govern one part of England; and Edmund, the son of Ethelred, the other part: but a very short time afterwards Edmund was murdered, leaving the whole kingdom to Canute.

WATER (*Continued*).

M. Well, Ion, your description of Water, last week, was a rather long one. We left off by saying that perhaps every one of those qualities in the water has some *use.* There is a "reason why" for all of them. No doubt when God created water he thought of every quality which he gave to it.

W. I wonder whether when God created it, he counted up its qualities—perhaps he made an account of their exact number, and thought of all the different ways in which men could use it.

M. I dare say that he did, Willie. Suppose that you set to work yourself—and find out some of the uses of water.

W. I can tell you several, mamma. It is useful to wash in—to drink—to boil puddings in—to make the tea with—to make the flowers grow—for fishes to swim *in*—and ducks to swim *upon*—for ships and steamers to float upon—to mix colours with—to turn round the wheels of water mills—and that will be enough!—though I dare say I could find a great many more.

Ion. I have been thinking, however, which are its *principal* uses to man—its use for washing is one.

L. I think, that its use for *drinking* is the greatest use—because, without it we should die. We might live without washing.

W. And be very dirty.

Ion. You don't know that. If water could not be used for washing, we might be made with skins that never would get dirty. But now I think about it, its use *for fertilizing the ground,* which we spoke of last week, is the greatest use—because without that use there would be no corn, no grass, no cattle, no food for man—but, now we might almost get drink enough from the juices of the plants. So this is the way to say it—

Water is useful, 1st, for fertilizing the earth;
2nd, for drinking;
3rd, for washing;

and this is the next important use—
4th, it will float ships from one end of the world to the other, and this is a very great use—for, without it people in different countries would not know each other. *English* people would always be shut up in this little island—they would not know what is meant by a Frenchman.

W. Nor would they know anything about America, and the West Indies:—and they would never have any sugar in their tea.

M. No, nor any tea either—but you are talking a little too fast. I want you now to think again. Try and point out *why* the water has these uses—that is to say, tell me *which qualities* in the water render it thus useful.

W. Well, mamma. It is useful to fertilize the ground because it *penetrates* it, and it must have some other qualities for feeding the plants, which we have not learned about.

Ion. I will tell you why it is useful for drinking—because it is *fluid*—and because it is clear and tasteless. We should not like it without those qualities.

L. It is useful for washing, because it is colourless—and penetrating—and solvent.

W. And it is useful for ships to float upon, because it is buoyant. I wonder why it is useful to turn the wheels of water-mills.

L. Because it is fluid and heavy

And water is useful to make steam for the engines on the railroads; and, in steam-boats. I don't exactly know why.

M. No; and it would take too long a time for me to explain it to you now. Now that you have observed the water's *qualities*, and its *uses*, suppose that we next find out the *different sorts of water*.

Ion. We can soon do that, mamma. 1st, there is the RAIN WATER in the clouds *above* the earth — then, 2nd, there is the RIVER WATER, flowing *on* the earth; and, 3rdly, the very cold water *under* the earth, where the sun's heat never reaches it—that is called SPRING WATER.

L. And some of these springs run through parts of the earth where there are sulphur and other minerals, which give the water a nasty taste. They are called MINERAL WATERS—there are some at Bath.

M. Yes, and in Derbyshire also. There you may find springs of mineral waters which are warm—so that there is WARM SPRING WATER as well as cold.

W. That makes *five* different kinds. And then, mamma, there is not only warm spring water,—but, in Iceland there are springs which are boiling—so there is HOT SPRING WATER. In Cheshire, too, you said there were springs of salt water, so there is SALT SPRING WATER. And, the sea contains salt, that is another kind of water, SEA WATER. That will make, how many different sorts, I wonder?

Ion. Eight,—I have been counting them; and there is another sort yet. *Pond* water! The dirty water in our pond, I'm sure, is different from any other. Think of the insects in it. Besides, it is anything but colourless, or tasteless—you said once, mamma, that it had such bad qualities because it was not running, like river water. What did you call it then, because it was always so still?

M. I called it STAGNANT WATER.

W. But why is it, mamma, that this stagnant water changes its colour, and has so many insects in it?

M. Because, Willie, so many leaves, plants, and insects are blown into it. Now, if these things were blown into a running stream, they would be carried on by the current—but, when they fall into such a pond, they remain there until they become rotten, or putrify, as we say. So, the colour of the water is changed.

Again, on some of these leaves are found the eggs of many insects;—and, as the leaves float on the water's surface, the eggs are hatched by the heat of the sun, and thus produce the numberless swarms of insects which are found in ponds, and all stagnant waters.

W. Well, mamma, we have heard of nine different sorts of water, now hear me say them!

Water is not always like the boiling water in our urn, for there are many different sorts, such as river water — rain water — cold spring water—warm spring water —hot spring water—mineral spring water — salt spring water — sea water—and stagnant water.

Ion. So we have learned

The qualities of water,
The uses of water, and
The different sorts of water.

M. And the rest you shall hear next week. Good bye.

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY.

L. You said, papa, that you would tell us of the other *layers* in the earth's crust—those below the clay and boulders.

P. So I will. But this is not really Physical Geography. Geography is a description of the earth's *surface.* The account of the materials below the surface is called GEOLOGY. You will, however, be better able to proceed with your physical geography, if I can first make you understand something of geology.

We will therefore begin. But instead of beginning at the surface of the crust, to proceed downwards, we will start from the very lowest parts of this crust—the parts which were formed first—and then will learn of those placed above them. The upper part of the earth's crust is, as I have told you, formed of different *slices* of earth, placed regularly, one above another, so—

Vegetable soil,

Sand and Gravel,

Clay and boulders.

We do not really call them "slices" of earth;—but, as there is a Latin word *stratum* which means anything made in the form of a slice, so, in future, we will use this word—say, a *stratum* of earth, instead of a slice; and, again, when we want to speak of more than one stratum, we must not say stratum*s*—that is not proper—but say *strata.*

You know very well that if you were to place a number of books on top of each other, the books at the bottom of the pile would be pressed together more, and more flattened than those at the top.

L. Yes, because they have more weight on them.

P. It is exactly so with these *strata*—the second stratum has the weight of the first one upon it, and the third stratum is pressed down by the first and second; the fourth stratum, again, is under the weight of the first, second, and third; and so on.

It has therefore been found, except in one or two instances, that as men dig to a greater depth, each stratum is more solid than the one above it.

L. Just as they would find in the pile of books.

P. So—men have dug down through many different strata in the earth, until they have reached a kind of rock, which is more solid than any of the rocks in the other strata. It is very hard, and is called *granite.*

This hard granite is not found in strata, but in one immense mass—so, I will give you a new name for it. The Latin word for "I become," is *fio,*—therefore, the rocks found in strata are called STRATIFIED ROCKS; whilst the granite and other rocks which are not found in strata, are called UNSTRATIFIED ROCKS.

L. And the stratified rocks are above the unstratified; but, how is it that they have been placed over it in slices (*strata,* I mean)?

P. This has been done by the water. I told you in our last lesson that the water has, at one time or another, washed over all the different parts of this world. It has covered a large tract of land for many hundreds of years; and then, when it has gone back again, it has left a sediment of earth or rock on the surface.

W. Yes, you told us so before.

papa; we said it was just as the coffee leaves a sediment at the bottom of your breakfast cup. But, if there are so many different strata, *how many times* the water must have washed over the earth! Was the granite formed by water?

P. No, the granite and other unstratified rocks were formed by *fire*—that is to say, they are made of matter which has been melted by the fire. Each stratum of rock, I said, is more solid than the one above it (or, instead of saying more solid, you may say more *dense*, which means the same thing). Now, as these strata become more dense, they contain more *heat* (or caloric). Men have observed that they increase gradually in temperature, and have reason to know that beneath the unstratified rocks there are immense seas or lakes of *liquid fire*. These lakes of fire contain melted rock, which will one day, perhaps, cool and become hard, as the granite has done. Think!—the very granite of the curb-stones, which you walk upon, was, thousands and thousands of years ago, melted in some of these deep, fiery, caverns of the earth.

There is another name given to the unstratified rocks because they have thus been melted in the fire; and there is another name for the stratified rocks, because they have been formed by the water; but, I will not trouble you with any more hard names, to-day.

W. Oh, do, papa, tell us what they are called, we will be sure to remember the words.

P. Well, the Latin word for fire is *ignis*—and the Latin word for water is *aqua*—so, the rocks formed by the fire are called IGNEOUS ROCKS; whilst those formed by the water, are called AQUEOUS ROCKS. I cannot begin to-day to describe to you the aqueous rocks; but, as there is very little to be said of the *others*, you shall hear about them.

Let us try and go back again to the very beginning, the time before the earth had not any crust. It is supposed that, once, the granite and other igneous rocks were part of a great mass of melted matter floating about in the universe,—just like the masses of milky looking matter which the astronomers have seen in the sky with their telescopes. They call them *nebulæ*.

Men suppose now, that at the beginning of this world there was a great mass of matter like these nebulæ, which was divided into smaller masses;—and, that each small mass, when it was separated, and thrown into another part of space, cooled down, and became a solid globe. You can easily understand that as it cooled, it became *harder*.

Ion. Yes, we have often seen such things. The plumber, when he was mending the water-pipes, had a ladle full of melted lead; and, as he dropped some on the ground, it cooled directly, and became hard.

P. Well, I should suppose that the world was formed something in this way, except that when the "mass of matter" was separated, perhaps only the outside cooled, and formed the hard granite—for, as I told you, there are still lakes of fire inside. In the course of many many years, the outside of this granite was not only cool, but *cold*. Then, as the atmosphere which surrounded it, contained particles of vapour—as soon as there was no heat to separate the particles, they were able to unite. Thus was formed *water*, which began to flow about on the globe's surface.

W. I can understand, papa, about the particles of vapour forming water when it was cold. You showed us the same thing the other day, when the dish-cover was taken off. The vapour, as soon as it was removed from the hot meat, was cooled by the air, and it formed almost a tea-spoonful of water.

P. Well, then, we will stop to-day at this part of the history. I have told you, as well as I can, what is supposed to be the way in which the Creator formed the great globe of the earth—the *igneous rocks*. You know, now, how it is supposed that the water was first formed. In the next lesson we shall see how the water set to work to form *aqueous rocks*.

L. Ah! we never thought of that when we counted up the uses of water!

THE LORD'S PRAYER.

Father of all! we bow to thee
Who dwell'st in Heaven adored;
But present still, through all thy works,
The universal Lord.

For ever *hallow'd be thy name*
By all beneath the skies;
And may thy *kingdom still advance*,
Till grace to glory rise.

A grateful homage may we yield,
With hearts resign'd to thee;
And, *as in heaven thy will is done,*
On earth so let it be.

From *day* to *day*, oh, may we own
The hand that *feeds* us still;
Give us our bread, and may we rest
Contented with thy will.

Our sins, oh, teach us to confess,
And may they be *forgiven;*
To others let us mercy show,
And beg the same from Heaven.

Still let thy grace our life direct,
From evil guard our way;
And in *temptation's* fatal path,
Permit us not to stray.

The kingdom, pow'r, and glory, all
Alone belong to thee;
Thine *from eternity* they were,
And *thine shall ever be.*

W. B.

PERSPECTIVE.

THE HORIZONTAL LINE.

P. To-day, we will go back in our drawing lessons, and make another beginning.

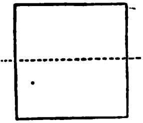
Ion. Why, papa?

P. Because, hitherto you have learned to draw Angles, Triangles, and other figures when they are placed directly opposite to your eyes—in front of you. We will now learn to draw the same figures in a different position—as they appear when placed by the side of you. We will draw side views, instead of front views.

L. Oh, papa! I am afraid that that is what they call *perspective.* The drawing master in our school has been teaching it to the elder girls; and they say it is very dry, and hard to learn.

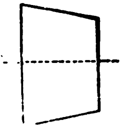
P. Then they have made a mistake. If you will listen to me, and will pay great attention (but you must make up your mind to do *that*), then, you will find it to be very easy. Ah! and you'll like it very much, too.

Here is a square. Look at the right hand side, and then at the left. Now, tell me which is the larger side of the two.



W. They are both of the same size, of course.

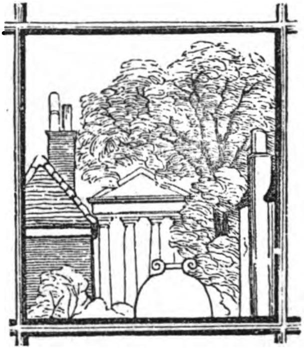
P. You say that, because the square is exactly in front of you. But now, see—I have drawn it so that it appears to be at the side of you. Look at it, and tell me if both sides still appear to be of the same size.



W. No—the farther side seems to be smaller.

Ion. And I can tell you why that is. It is because it is further off—whenever an object is in the distance, it appears smaller than when it is close to you.

L. And here is an instance. Look at the pane of glass in the front window. You know that the Chapel of the Orphan Asylum is larger than a pane of glass. It is larger than our house. Yet you see that the chapel, and part of the elm trees, and the little cottage all together, appear smaller than this *single pane.*



W. Yes—really! that is true; the pane of glass covers them all. Well, that is a *rule,*—*When objects* *are in the distance they appear smaller than when they are near.*

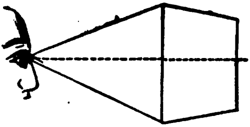
P. You are rather too quick at making rules, Willie. You should not make a rule directly you see one instance of a thing,—not even when you have seen two or three instances. I could tell you of objects which appear larger from being in the distance. It *happens*, however, this time, that your rule is generally correct.

L. And, papa—In drawing the side view of the square, as the farther side is smaller than the near one, you were obliged to slope the top and bottom line to meet it. And that shows, too, that the square gets gradually smaller. I have noticed, too, papa, that the dotted line which you have made in the front view of the square, is quite straight (horizontal, I mean); and, again, in the side view of the square, this dotted line is not at all altered—it is still horizontal. How is that?

P. Ah, you must pay great attention, and then I will show you something. Ion, come and stand exactly in front of the square. Look straight before you, at *the middle* of the square. Now, I will make a line with my flat ruler from your eye to the dotted line. If you stand here, Willie, you can see that my ruler is quite horizontal; so you can tell by that, that the pupil of his eye is exactly on the *level* with the dotted line. Do you know what I mean?

W. You mean that the *dotted line* is not the least bit higher, nor the least bit lower, than his eye. But then, the *top* of the square is higher than his eye, and the *bottom* of the square is lower.

P. That is just what I was going to call your attention to. Come, Ion, and look now at the side view of the square.



The dotted line of course marks the level of Ion's eye. You notice in the *near* side, how much the top is above the level of the eye, and the bottom below. If you now notice the farther side, you will see that *the distance above and below the dotted line is not so great.*

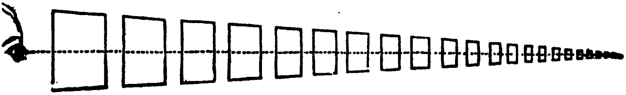
L. That is because the whole side is smaller. The square seems to get gradually smaller—so, the distance from the level of the eye must seem to get gradually smaller, also; that is why you have to make the top and bottom lines slanting, instead of straight, when you draw the side view.

P. And now, I should think that you could answer the question you gave me—"Why the dotted line is still horizontal, and does not *slant*, when I make a side view?"

L. Yes, I can, papa. You do not want to slope the dotted line for it to be less distant from the level of the eye. This is why. *It* *is not at any distance from the level of his eye, but is on the same level* —so it must always be a level line, or a HORIZONTAL LINE.

W. And if you were to make the line very much longer, it must always be horizontal, because it would *still* be on the level of the eye.

P. That is true. Suppose I draw a long row of squares, each more and more distant from Ion's eye.



The centre of the first square is, you see, on a level with the eye, so *the centres of all the squares* are on a level with his eye.

W. And the distance from the top of each square to the level of the eye becomes gradually smaller, as we said.

Ion. And it is so with the lines at the bottom of each square, until at last the distance between the lines is so small that they appear to be nearly on the same level.

L. Whilst the line through the middle of the squares is always horizontal, because it is exactly opposite to the eye.

P. Then here is rule the first for you.

PERSPECTIVE—RULE 1.

When drawing any objects in perspective, we must draw a line through the picture, to show which parts are on the same level with the eye,—that line is called THE HORIZONTAL LINE.

A CHILD'S EVENING HYMN.

Now I lay me down to sleep,
  Nicely covered in my bed,
God alone can safely keep
  Harm and danger from my head.
Oh, how gracious he must be,
Thus to mind a child like!

Soon my weary eyelids close;
  Soon my little limbs, undress'd,
Quietly enjoy repose,
  Till I rise again from rest.
God is my Preserver; he
Cares for little ones like me.

By-and-by, in sleep of death,
  I must lie down in the grave;
But the Lord, who gave me breath,
  Then my trembling soul can save.
Helpless, sinful, though I be,
Jesus died for such as me. CYGNUS.

PLEASANT PAGES

FOR THE

16th Week. MONDAY. Moral Lesson.

HONESTY

THE BROKEN WINDOW.

P. We learned last week what is meant by *a principle.* The principles we spoke of were—

Ion. The cautious principle,
The liberal principle,
The principle of punctuality, and
The principle of love—
which you said was a much higher principle than any of the others.

W. Then, papa—you spoke of the great principle *Truth*, which you said was the foundation of all the other good ones.

P. Yes, and I also said, that it was the foundation of the principle of *Honesty*—for, when a boy loves the truth, he is almost sure to be very careful about being honest. Do you know the difference between truth and honesty?

W. I do not exactly, papa—you said that they were very much alike.

P. Then, instead of talking about the difference now—suppose you read this tale which I have copied from *Chambers's Edinburgh Journal.*

Two boys, of nearly the same age, were one day amusing themselves with that dangerous, though not uncommon pastime, pelting each other with stones. They had chosen one of the squares for their playground, thinking by this means to avoid doing mischief. To the consternation of the thrower, however, a missile, instead of striking the boy at whom it was aimed, entered the library window of one of the lordly mansions forming the quadrangle.

"Why don't you take to your heels, you blockhead? you will have the police after you whilst you are standing staring there," was the exclamation of his companion, as he caught him by the arm in order to drag him from the spot. The author of the mischief still retained his thoughtful position.

"If your father is obliged to pay for this, you will stand a chance of having a good thrashing, Jack," the other boy urged.

"Never mind, Tom; leave me to myself," was the reply; and the young delinquent moved, with unfaltering step, towards the door of the mansion, the knocker of which he unhesitatingly raised. The summons was answered by a footman.

"Is the master of the house at home?" he with some diffidence inquired.

"He is."

"Then I wish to see him, if you please."

"That you can't do, my man; but I'll deliver any message for you."

"No, that will not do. I must —indeed I must see the gentleman himself." The earnestness and perseverance of the boy at length induced the man to comply with his request, and opening the door of the library, he apologised for asking his master to see a shabby little fellow; adding that he could neither learn his business nor get rid of him.

"Bring him in," said the gentleman addressed, who, having witnessed the transaction, and overheard the conversation, was curious to know the object of the boy's visit. The poor child, whose ideas had never soared above his father's second floor, stood for several moments in stupified amazement when ushered into an elegant apartment; but remembering the painful circumstance which had brought him into this scene of enchantment, he in some measure regained his self-possession.

"I am very sorry, sir," he begun in a faltering voice, "but I have broken your window. My father is out of work just now, and cannot pay for it; but if you will be kind enough to take the money a little at a time, as I can get it, I will be sure to make it up;" and as he spoke, he drew a few halfpence from his pocket and laid them on the table.

"That's an honest speech, my lad; but how am I to be sure that you will fulfil your engagement?" Mr. Cavendish returned. "Do you know that I could have you sent to the station-house till the money is made up?"

"Oh, don't send me there, sir; it would break my dear mother's heart! I will pay you all—indeed I will, sir!" and the poor boy burst into a flood of tears.

"I am glad that you have so much consideration for your mother's feelings; and for *her* sake, I will trust to your honesty."

"Oh, thank you, sir—thank you!"

"But when do you expect to be able to make me another payment? This is a very small sum towards the price of a large square of plate glass;" and as he spoke he glanced at the four halfpence which the boy had spread out.

"This day week, sir, if you please."

"Very well, let it be so. At this hour I shall be at home to see you." Poor Jack made his very best bow, and retired.

True to his appointment, our high-principled boy appeared at the door of Mr. Cavendish's mansion. As the footman had previously received orders to admit him, he was immediately shown into the library.

"I have a shilling for you to-day, sir!" he said exultingly, and his countenance was radiant with smiles.

"Indeed! That is a large sum for a boy like you to obtain in so short a time. I hope you came by it honestly?" A flush of crimson mounted to the cheek of poor Jack, but it was not the flush of shame.

"I earned every penny of it, sir, excepting one my mother gave me, to make it up," he energetically replied; and he proceeded to say that he had been on the look-out for jobs all week; that he had held a horse for one gentleman, and had run on an errand for another; in this way accounting for elevenpence.

"Your industry and perseverance do you credit, my lad," Mr. Cavendish exclaimed, his benevolent countenance lighting up with a smile. "And now I should like to know your name and place of residence."

"I will write it, sir, if you please. Indeed I brought a piece of paper for the purpose of putting down the money. I hope I shall be able to make it all up in a few weeks, for I am trying to get a situation as errand-boy."

"You can write, then? Do you go to school?"

"Oh yes, sir, I go to a free school." And Jack stepped forward to take the pen, which Mr. Cavendish held towards him.

"You write a tolerably good hand, my little man. You may, I think, do better than take an errand-boy's place. Let me see if you have any knowledge of arithmetic." Jack stood boldly up, and unhesitatingly replied to the various questions which were put to him. "That will do, my good boy. Now, when do you think you will be able to come and bring me some more money?"

"I will come again this time next week, if I am alive and well, sir."

"That was wisely added, my lad; for our lives are not in our own keeping. This, I see, you have been taught."

Another week passed, and again Jack appeared, but his countenance now wore an aspect of sadness.

"I am very sorry, sir," he said, "I have been unfortunate, and have only a small sum to give you." And as he spoke, he laid three pennyworth of halfpence before Mr. Cavendish. "I assure you, sir," he earnestly added, "I have offered my services to every gentleman on horseback that I could see."

"I believe you, my boy: I am pleased with your honest intentions. Perhaps you will meet with better success another time. Let me see; you have now paid one shilling and fivepence: that is not amiss for the time;" and with an encouraging smile Mr. Cavendish suffered him to depart.

Though Mr. Cavendish had, from the first, concealed his intentions, his heart was planning a work of benevolence, which was nothing less than to befriend the poor boy, whose noble conduct had won his admiration. For this end he, a few days subsequently, paid the parents a visit when he knew that the son would be at school. He related the incident which had brought him under his notice, and proceeded to ask whether his conduct towards themselves was equally praiseworthy.

"Oh yes, sir," exclaimed the mother, her eyes filling with tears. "He has ever been a dutiful child to us, and always acts in this honest, straightforward manner."

"He has indeed a noble spirit, sir," the father rejoined; "and I am as proud of him, as if he were a prince."

"Would you part from him?" Mr. Cavendish asked. "I have something in view for his future benefit."

"Undoubtedly we would, for his benefit," was the reply of both.

"Well, then, purchase him a new suit of apparel with these two guineas, and bring him to my residence this day week. I will then acquaint you with my views for him for the future."

Language cannot describe the heartfelt gratitude which beamed in the eyes of the happy parents, nor could they find words to give it utterance.

When next our young hero came into the presence of his benefactor, his appearance was certainly altered for the better, though no disadvantages of dress could rob his noble countenance of its lofty expression. Mr. Cavendish had previously made arrangements for him to become an inmate of his own house, and had also entered his name as a pupil in a neighbouring school. John Williams is now receiving a liberal education, and enjoying all the advantages which wealth can procure. Such a sudden change of position and prospects would, in many instances, prove injurious to the moral character; but with a mind based upon the solid principles which our young friend possesses, little fear may be entertained that such will be the result.

Ion. I like that boy for speaking the truth—but, I like him even more for being honest.

When he ran up to the gentleman's house to tell him, and when he said, "I am very sorry, sir, but I have broken your window," that showed that he had the principle of *truth*. But, when he said, "If you will be kind enough to take the money a little at a time," and drew the few halfpence from his pocket, to lay on the table—that showed that he had the principle of *honesty*.

L. Yes. He wanted to do more than speak the truth. He wanted to give back to the gentleman all that belonged to him.

W. I see now,—he wished not to *deprive* him of anything that was his—and that was, HONESTY.

A SONG FOR OCTOBER.

CAN you catch the flying shadows of the clouds that onward speed?
Can you count the winged millions of the thistle's downy seed?
Can you make the winds obey you, or the waves less swiftly run,
Or stay the earth one moment as it whirls around the sun?

Can you change the alternations of darkness and of light?
Can you bid revolving seasons forget to urge their flight?
Will Time his fleeting footsteps for you an instant stay,
And arrest the busy workings of his minister—Decay?

How futile are such questions, addressed to mortal man,
Himself a shifting atom in the universal plan,—
A wafted seed, a shadow, of light a feeble gleam,
A leaf shook from the tree of life upon the hurrying stream.

And now when leaves fall thickly, and hollow boom and swell
Of winds and waters, mournfully, of coming winter tell,
We should be meek and humble, and with a holy fear,
Worship, and pray, and watch throughout this "Sabbath of the year."

Lo! what a glorious temple the Architect Divine
Hath built for our devotions,—for every heart a shrine,
For every knee a resting-place, a halo for each head,
And over all an effluence of love benign is shed.

Amid the rustling branches, and amid the whisp'ring leaves,
A spirit mute, yet eloquent, ever a sad song weaves,
A warning and admonishing, wherein is this refrain,—
"Prepare for your departure, you may not here remain!"

H. G. ADAMS.

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK.

THE BONES OF THE FACE.

M. We noticed, last week, the bones of the upper part of the head—the *skull.* This week we will observe the bones of the lower part—the *face.* I wish you first to point out the different openings, or holes in the face, which are worth noticing.

Ion. Let me, please, mamma. There are the holes for the eyes—the *sockets* you called them—then the *hole for the nose*—and then, there must be another *hole for the ear*, somewhere. Ah, I have found it—here it is. It is drawn in the picture just at the end of the lower jaw bones. And, again, there must be *a hole where the head is fastened to the neck*—a hole for the spinal cord to pass through, to be joined to the brain. See, I have found four holes!

M. Now I will give you some new names for them. In speaking of any one of them, do not call it a hole, but, an *orifice.* So you may say that the different openings in the face are—

The sockets for the eyes,
The orifice for the nose,
The orifice for the ear,
The opening where the head
is joined to the neck.

Let us look, secondly, at the *bones* of the face. How many bones do you see?

W. Here is a bone in front, mamma. The top of it forms part of the edge for the eye's socket, and the bottom part contains a row of teeth. I suppose, from that, the bone is one of the jaw bones.

M. Yes; it is the upper jaw bone.

Ion. Then here is another bone. It is behind the first one. Part of its edge also forms the sockets for the eye;—and it ends in a straight *ridge* which you see in front of the temple bone. What is this one called, mamma?

M. Put your hand up to your face and try if you can feel the bone, Ion—you will soon know what to call it.

Ion. I can feel it, mamma, it is under my cheek. It is called the *cheek bone,* I suppose. And, I can see in the picture two little bones placed just where the bridge of my nose is—they are *nose bones,* I suppose.

M. You had better say *nasal* bones. That is a better word;—it is made from the Latin word *nasus,* a nose.

W. And, lastly, mamma, for this one is the last I can *see,* there is *the lower jaw bone.*

L. Now, I will count up the principal parts which we have noticed.

Those of the face are—

1. The sockets for the eyes.
2. The orifice for the nose.
3. The orifice for the ear.
4. The opening where the head
is joined to the neck.
. The cheek bones.
6. The nasal bones.
7. The upper jaw bone.
8. The lower jaw bone.

M. Very well, Lucy. Let us now think of something else. You know that the skull contains the *brain,*—the organ of thinking, as you called it. What organs do you find in the face?

W. There are several organs:—the eyes, the organs for seeing—the nose, the organ for smelling—and the ears. I can tell you, mamma, why these organs are placed in the lower part of the head—it is because they are all servants to the great organ above them. They *get* the knowledge, and send it up through the nerves to the brain. You know what I mean. The eye gets an idea of the size, or the colour of things—the ears get the ideas of sounds, and of beautiful music, and so on. Then they send these ideas up to our brain to be thought about.

Ion. Ah, ah, ah!—and, while you are thinking so much about *ideas*, Willie, you are forgetting a very important organ—the *mouth*, and the teeth in it! It finds ideas which are not sent *up* to the brain, but *down* to the trunk of my body, to be left in an organ there, called the *stomach*,—it often gives the stomach an idea of a good dinner. I wonder what would become of the other organs, and all the ideas they send up to the brain, if it were not for this organ!

M. Yes, this is a very important organ, Ion. Although the face contains the organs which are called the senses—yet the largest part of it is formed by the jaws, which are used in eating. So the face contains the *eating* part of your head, and the skull contains the *thinking* part.

You may learn something from this. Listen. If you exercise one organ more than another, it will often increase in size. What broad shoulders, and strong arms, some of the porters have, who carry such heavy loads. I dare say you have often noticed them. So, when a man exercises his mind very much, his brain becomes larger, and his skull, too—at the same time, his face sometimes becomes small and thin.

But if you ever notice a man who eats and drinks very much, his jaw bones seem to increase, and his face becomes much larger—while, as he has not much time to think, his skull does not grow so fast, and is small. Here is a drawing for you of a man who is fond of thinking, and of another man who is too fond of eating.

L. I can tell at once, mamma, which is the thinking man—this one is. And the other is the eating man. Why, his face is twice as large as his skull.

M. Yes. And, as the lower

animals are not able to think, their brains are smaller. In the monkey, the horse, the cat, and other back-boned animals, their skulls become smaller and smaller, until there seems to be no room for any brain. They have, however, very large jaws.

L. Ah, they only live to *eat.*

M. If I had time to make you some drawings of a monkey's head and a dog's head, you would understand it better.

I will just tell you one thing more. You know that your head is placed on the *top* of your spine, not on the same level like the head of a cow. If you look in the drawing for the hole where the head is joined to the spine, you will see that the largest and heaviest part is in front, so that your head is more likely to lean forward than backward.

W. Ah! I have seen men walking through the streets with their heads leaning forward—very often.

M. Yes, our heads would fall forward too much, but for the very strong muscles which are placed at the back of the neck,—they act something like cords, for they are fastened to the occipital bone, and draw the head backwards.

But they are not always useful. The other night, when your papa came home late, he was very tired; and, as he sat upright in his chair, he fell asleep. Then, those muscles at the back of his neck were relaxed (or loosened). And you may remember that, as they could not hold his head back, it began gradually to fall forward.

L. Yes, he *nodded.*

M. And then nodded again; until, at last, it fell down on his breast, so!

"Dropping" off to sleep.

Now, you know why people *nod,* sometimes, when they go to sleep.

W. Yes, because the front part of the head is so heavy—but then, they should lie down when they want to rest, and not try to sit upright.

THE SAXON KINGDOM.

THE THREE DANISH KINGS.

P. I am glad to tell you of a good king at last. CANUTE, although he was a Dane, was a better man than many of the Saxons. The poor Saxons were very much frightened and dispirited about this time, so that one Dane was thought to be equal to ten Englishmen. They had not only suffered from the troubles of war, but there had been a great scarcity of corn. A fearful disease had destroyed numbers of their cattle, and another disease had destroyed the people themselves.

So now, England was governed by the Danes; and, when Canute found that he had the government of the country all to himself, he set to work in earnest to do good, and to help the people.

He had heard of the glory of King Alfred, and of the good laws he had made; and, when he found that these laws had been forgotten during the wars in the bad reign of Ethelred, he determined to bring them into use again. So he called together *the Wittenagemot* (this assembly, you may remember, consisted of the clergymen, the nobles, and the wise men—something like our Parliament), and ordered that Alfred's laws should be brought out, and read, and used again.

He ordered that the towns which had been burned and destroyed should be rebuilt. He divided England into four great parts, so that he might be better able to govern the country, and make his people happy. He encouraged learned men to come and live here, and caused many new schools to be established. He also sent young men to be taught in the colleges at Rome.

But, like all kings in those days, he was very fond of war, and of power. He kept up a very large body of Danish soldiers, and in one year he made the nation pay a tax of nearly £100,000 to feed and clothe them. At this time the county of Cumberland belonged to the Scots, so he marched against their King Malcolm, and made him do homage for it. He set sail for Sweden and took possession of the country; so then, he was King of Sweden and Norway, Denmark, and England, and was the richest and most powerful king in those times.

The people, therefore, thought that they could not say too much of his greatness; and everybody's mouth was full of his praise. You have, I dare say, heard the tale of the flattery paid to him by his courtiers—that is, the men who lived with him at his court.

Flattery, every one should know, is a very bad thing. It is good to praise a man who does well; but it is not always good to praise him before his face. When, however, you give a man more praise than he deserves on purpose to please him, that is *bad*. It is falsehood—and is flattery. But if you praise him not because you like him, but because he is rich and strong, and you want to get something for yourself, that is very bad indeed—it is the worst kind of flattery.

Canute knew this; he thought that flattery was a bad sneaking thing—a very *cowardly* thing—for anybody can make up praise, and say it. So when he found that his courtiers tried to please him with praise that was not true, what would he say to them?

W. Why, he would say, "Get away with your nonsense," or something of that sort.

P. Yes; something like that. His courtiers once said to him:—"Canute! Lord King! You are a very mighty man, and can do *everything*. You are lord of the earth and sea." "Ah!" said Canute, for he looked rather suprised, as though he had heard some good news, "then bring me a chair;" and then he sat down to govern the sea. "Thou, O sea!" said he, "art one of my subjects; I command you to keep order. Let not one of your waves come any higher on the land, nor dare to wet thy Sovereign's feet."

He then sat still, waiting for the sea to obey him; and pretending to believe all that his courtiers had said, whilst they looked on silently, not liking to speak. The sea, as you may suppose, still came onward, and surrounded Canute's chair, when he turned round to the men with an angry look, and asked them, "How can you think of trying to please me by making God angry, and telling untruths? Learn," he said, "from this time, that it is sinful to lie and flatter, for only *He who made the earth and sea* can make them obey him." He then said, that he would never again wear his crown, and ordered it to be put away at Winchester.

After a good reign of nineteen years, Canute died, and divided his kingdom amongst his three sons. He left the kingdom of Norway to his son *Sweyn*, the kingdom of Denmark to his son Hardicanute, and the kingdom of England to his son Harold.

HAROLD.

Harold, who was surnamed *Harefoot*, reigned nearly four years. He is only remarkable for an act of wickedness in murdering his half-brother Alfred.

HARDICANUTE.

When Harold died, his brother Hardicanute came over from Denmark, and was made king. This man, like his brother, had few of the good qualities of his father Canute. He was a very *strong* man, but was too fond of eating and drinking. After reigning two years he died from intemperance, at the wedding-feast of a Danish lord.

TRY AGAIN.

'Tis a lesson you should heed,
Try again;
If at first you don't succeed,
Try again;
Then your courage should appear,
For if you will *persevere*,
You will conquer, never fear,
Try again.

Once or twice, though you should fail,
Try again;
If you would at last prevail,
Try again;
If we strive, 'tis no disgrace
Though we do not win the race;
What should we do in that case?
Try again.

If you find your task is hard,
Try again;
Time will bring you your reward,
Try again;
All that other folk can do,
Why, with patience, may not you?
Only keep this rule in view,
Try again.

HICKSON.

WATER (*Continued*).

W. I have been thinking, mamma, what else *can* we learn about water?

M. Many more things. We spoke last week of the different *sorts* of water—this week we will notice the different *states* in which it is found.

Ion. What do you mean by a state?

L. Oh, Ion—*I* can answer that question. Have not you heard of things being in a hot state, and in a cold state?

Ion. Yes. And of water being in a liquid state—any one can understand that.

M. But it is not always liquid. When the winter comes, and it is frozen, it is in a *solid* state.

Ion. Yes, it becomes *ice.* Will you make us understand how that is, mamma?

M. Yes, if I can. Listen. I told you once, you may remember, that everything contains heat or caloric.

W. And you said, mamma, that caloric causes any substance to swell—that is, the particles separate from each other.

M. Or, if you like to remember a new word, you may say that it causes the substance to *expand.* If all the heat in this world were suddenly taken away, everything would become as hard as a rock. Water is liquid, because it contains sufficient caloric to separate its particles. Sometimes the freezing winds come from the North Pole, and the water loses its caloric, we then say it is *cold.*

L. Yes, mamma. Papa told us once, that there was no such thing as "cold," but, that it only meant the absence of heat.

M. Then, when the water loses *very much* of its caloric, it is not only cold, but frozen, and becomes hard ice.

W. Still, it is not quite so hard as a *rock.*

M. That is because it is impossible for it to lose *all* its caloric. There is heat, even in ice. Think of men having been able to strike sparks of fire from the ice!

W. But, mamma, there is one thing more which I want to ask you. When heat *expands* anything, it becomes larger, and so when a substance is made cold, I should think, it would become smaller.

M. Certainly it does so.

W. Then how is it, mamma, that when water loses its caloric and freezes, it actually expands? I *know* it does—because last winter it burst the lead pipe in the cistern,—and papa told me that when changing into ice, it swelled very much—and the leaden pipe was obliged to burst, to make room for it.

M. That is true—but this is an *exception* to the rule. When water freezes, its particles are converted into *solid crystals*, and these crystals do not fit so close as the *particles* do when it is liquid.

L. Then, there must be spaces between the crystals—pores—and that is the reason why ice is lighter than water, and will float on the surface if you throw it in.

Ion. Then we learned in one of our first lessons that water is sometimes in a fluid state. When you make it very hot, the caloric separates the particles so much that they form steam.

M. There is water also in the air, but the particles of water are so small that they are invisible, like steam. Sometimes, however, when the air is very cold, these particles unite, and form vapours, which you call mist.

W. Papa told us something of the particles of vapour in the air, in our Physical Geography lesson, last week, how they formed the water on the globe. And you can also see these particles in a *fog*.

M. Yes. A fog is formed of vapour. There is little difference between a fog and a mist, except that fogs consist of vapours rising from the *land*—and, often contain smoke which is blown towards the earth by the cold air. We give the name of mist to the vapours rising from the rivers and lakes—so that you may say—*land*-vapours are called FOG; and *sea*-vapours are called MIST.

But I have seen water in another state. In the evening time —when the sun has set, the earth is not near so hot as it was in the day time. Then the vapours in the air descend, and cover the fields and plains. In the night time, as the land becomes cooler, their particles unite and form little round drops to refresh the grass and flowers. So, by going out early in the morning, before the sun has risen and warmed the earth, I have seen thousands of these beautiful little drops, hanging in bright rows, like diamond pearls, from the leaves of the shrubs, and the grass.

L. So have I seen them, mamma. You mean the DEW.

M. Then, when the old sun shines forth on the earth, river, and seas, the vapours often rise to a great height and form large collections which float in the air.

W. Those are called CLOUDS.

M. That is right; and sometimes the air above in which the clouds float is very cold—then they become frozen and descend on the earth in white flakes which we call—

L. SNOW.

M. Sometimes the snow in falling passes through a *stratum* of warm air (you know now what a stratum is)—we sometimes say a *current* of air. When thus descending through the warm air, some of the snow is half melted, so that snow and water fall together; we then call it—

W. I think it is called SLEET.

M. That is correct. Again,—in the winter time the clouds form rain, instead of snow. The round drops of rain in falling, pass through strong currents of *very* cold air, so that before they reach the ground they are frozen, and patter against the window like little round stones.

Ion. Yes, and I have heard of their forming *large* round stones, which break the windows—we call them HAIL-STONES. Now, mamma, may I count the different states of water. I will say them very nicely.

Water is not always in a *liquid* state—but is found in other states, such as ice, steam, mist, fog, dew, clouds, rain, snow, and hail. May Lucy make up the lesson, mamma?

M. Yes, and you may divide it into four parts. The qualities of water—the uses—the different sorts —and the different states.

L. And, when we write its uses, we will show which qualities make it useful—now then!

Lesson 10. WATER.

(Qualities)—WATER *is a thin, fluid, liquid, bright, sparkling, clear, transparent, tasteless, inodorous, inanimate, inorganic, reflective, and buoyant substance. Because it is liquid, it is penetrating, solvent, and cleansing. In its effects it is cooling* *refreshing, reviving, strengthening, and fertilizing.*

(Uses)—*Water, because it is penetrating and has other qualities, is useful to fertilize the earth.*

Because it is liquid, pure, and tasteless, it is useful to drink.

Because it is fluid, penetrating, and solvent, it is useful for washing.

Because it is buoyant, it is useful for steamboats and ships to sail upon.

Because it is fluid and heavy, it is useful to turn the wheels of water-mills. It is also useful for making tea—for boiling the pudding in—for mixing paints and colours.

W. Ah! and we have forgotten something. It is useful to put out a fire—extinguish it, I should say. Why is that?

Ion. I should say that is because —I don't know why—because it is *wet!*

L. And because it is *cold*, perhaps.

(Different sorts)—*There are many different sorts of water, such as river water—rain water—cold spring water—warm spring water—hot spring water—mineral spring water—salt spring water—sea water—and stagnant water.*

(Different states)—*Water is not always liquid, but is found in other states—such as ice, steam, mist, fog, dew, clouds, rain, snow, and hail.*

A SONG FOR SEPTEMBER.

ALL the flashing, gleaming glory, of a proud host onward pressing
To the deadly field of conflict, or in triumphing return,
With splendour of spread banners, that woo the sun's caressing,
And trumpets' blare, and trampling of hot steeds the ground that spurn.

All the wealth of olden story—the up-piled heaps of treasure,
The gorgeous pageantry described in tales of Eastern land,
Are as nothing to the riches—the plenty without measure—
That brown SEPTEMBER scatters profusely o'er the land.

Here, on this breezy upland, we'll stand awhile down-gazing
Upon the quiet valley that spreadeth far beneath,
To watch the flying shadows of the clouds each other chasing,
And to twine of Autumn Flowers, all golden-hued, a wreath

Look! through the hazy distance, how the sheen of silver waters
Chequers the leafy umbrage of the woodlands waving wide,
Like a sea that meets the Orient, with the dye of purple slaughters
Upflushing through the amber of its ever-changing tide.

Look! how the sunlight catches the tints that are the rarest,
On stately oak, and elm-tree clump, and copse, and orchard flung;
And sleeps upon the stubble lands, and banks that are the fairest,
Above which rise the hedgerows with clematis tassels hung.

Mark! what a restless shimmer the basking landscape veileth,
Where gos'mers—tiny aeronauts—their silken meshes weave;
What plenty, glory, gladness, on every side prevaileth:—
Oh, golden-haired SEPTEMBER! who can look on thee and grieve?

H. G. ADAMS.

THE TRAVELLER THROUGH ENGLAND.

WESTMORELAND.

My dear Children,—

It is a very pleasant thing to get up early in the morning, and take a walk before breakfast.

And it is always pleasant in a country town which you have never seen before. So, as I awoke next day, and peeped between the edge of the blind and the window of the King's Arms Inn to see what sort of a morning it was, I observed the end of the broad street, and thought to myself, "I should like to know what is to be seen beyond there. I'll go and look."

And so it is—very pleasant—when you get out in the silent street, and there is no one about, except, now and then, some woman or girl, going "down town" for the milk. When there is nothing stirring except the weathercock on the market-place, and the sparrows who have been up some time.

Then is it pleasant to walk along and take notice, and to see what different kinds of *pavement* there are. How, in some parts, the pavement is uneven, and cracked, and wants mending—in some parts only gravel and loose stones; there! just by the doctor's house, where there are green posts and chains along the edge of the path. How, sometimes, there is a little green grass plot between the path and the road, and in other parts, a large piece of Asphalte to walk upon. And then, again, the pavement is made of round stones, which are very close together, and stick very tight in the earth. I don't know what they are called—they are not "*Boulders.*"

It is very pleasant, too, when you come to the *bridge*, and lean over to look at the water,—to feel the fresh breeze, and the dampness which rises to cool your face and refresh you. How quickly the river seems to flow in the morning, especially round the arches! It seems then to be in a hurry, as though it felt more glee in the early day, and wanted to be off to the open sea, before the barges and boats are out. Ah, it must be heavy work for the river to bear up those barges! And then, sometimes, a great fish jumps up—and that is very pleasant!

Sometimes you come to a long stone wall, with wall-flowers growing on the top, and, you think, "What is on the other side?" or, "Where will it end?" And then, perhaps, you come to eight almshouses, with a garden in front. The middle house has a stone image of a man whose features are quite worn off. Beneath him is a stone tablet, with a coat of arms, and some "printing" about him, with the line *Anno Domini* 1656.

And, then, it is very pleasant when you have gone past the workhouse to the end of the town, to notice, as you come back, the houses and shops, and see the men take down the shutters. There are four or five shops which are four times as large as the rest, with fine Corinthian pillars, and cornices covered with gold. On one is written, "Mr. Jones, FROM LONDON," in very large letters—so!—and another belongs to Mr. So-and-so, *Chemist to the* Queen. Do you know, I believe that the Queen has more than a hundred chemists? What quantities of physic she must take! And another man is shoemaker to the *late* Queen Dowager; while at one little shop, there is the Tobacconist to his Serene Highness—somebody—with a very *long* name—living in Poland, I think.

And it is pleasant to look at the houses. There are a few new brick houses, some of a dark red colour. Then, there are the old houses with bow windows. Here and there, a house more ancient still, with carved work upon it, and an archway underneath, which leads to somewhere. There are some houses with long pantiled roofs, while some seem to have no roof at all. There are the curious houses where the first floor rooms project over the shop, far into the street; and the second floor projects over these; and the third floor projects more still. Then comes the large square private house, with steps to the door—it is called *the Mansion House*,—and lastly the old fashioned grammar-school—as old as the alms-houses, perhaps.

It is pleasant, also, to stop at the market-place when it is market day, and the country folk come jolting in with their carts.—Sometimes, too, there is a town hall to look at, and sometimes a county jail, if you happen to be in the capital town.

But, oh, it is pleasanter still to go out to the church, and sit in the still churchyard. It is a very good place to think pleasant thoughts, and a place to learn to sing praises.

The *Clock* there ticks to tell you to begin. Yes! that's a curious place for the clock—why did men stick it up there? Perhaps because the tale it ticks sounds so true from the midst of the dead—for, it moves round its hands to tell children and men that they're moving on to GOD. But the clock's tick is seldom heard, and the poor hands, alas! they often find that they are making dumb motions to the deaf. Yet, then is the time for a living man to think of the graves beneath, and the world where he is, and the heaven above, and to remember that he belongs to all these.

I did not see so many places at KENDAL—but I saw very much that pleased me. There was the large broad High Street, which was very well paved, and another almost as large. There was a large church with a square tower—a town-hall—a free school, and a workhouse—they have a very clean and orderly workhouse.

I saw Kendal Castle on the opposite shore of the river Ken. It has circular walls, and three towers,—and, the view of the town and river from here is very fine.

I learned, too, that the articles manufactured at this town are woollen cloths, baizes, and worsted stockings. It was famous in old times for a coarse kind of green cloth, which the Archers used to wear. How fine they must have looked, dressed up in bright green coats. I have read in some old song book about the English Archers—"*arrayed in Kendal green.*"

I spent the whole day in this town, and did not return to APPELBY, the capital, as I had intended, for I found that I should have to travel back more than twenty miles.

In the evening I heard an account of that town from a gentleman who had lived there, which you shall have in my next letter with the *notes* on Westmoreland, as I promised you before.

I am, dear children,
Your faithful friend,
HENRY YOUNG.

PERSPECTIVE.

THE HORIZONTAL LINE *(Continued)*.

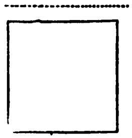
THE VANISHING POINT.

P. Last week, Ion, we made a drawing of a square, in which the middle of the square was on the same level as your eye.

Now, I will put a square before you, and will place it *below* your eye. What do you call the line which marks the height of the eye?

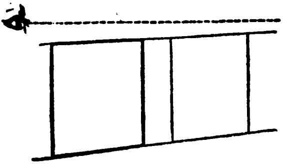
Ion. The *horizontal line.*

P. Well, then, here is the horizontal line drawn with dots, and the square is below it. Which side of the square is nearest to the horizontal line—the right hand side or the left hand side?



Ion. They are both at the same distance, because the square is in front of me. But, please, papa, turn it round.

P. I will; here it is, at the side of you.

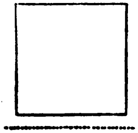


L. Yes, that is drawn according to the rule we made last Saturday; for now the right hand side seems to get nearer to the horizontal line—because, as that side is more distant, the space between it and the level of the eye seems to become smaller.

Ion. So that, when lines are below the level of the eye, they must run *up* to it.

P. Well, that is another rule—say it again.

Ion. When we make a drawing in perspective, the lines below the level of the eye must run up to the horizontal line.



P. Now, I will put the square up *higher* than your head. See, it is placed above the horizontal line.

I am going now to turn it round, with the left hand side near to you—so imagine in your mind the further side.

Ion. I have thought of it, papa.

P. Which side will be nearer to the horizontal line?

Ion. Why, the further side will seem to be, as it was in the other one. The space between the square and the level of the eye must seem to get smaller, as we said at first.

P. Then, in which direction will the lines run—up, or down?

Ion. Downward, papa. They must, for the space to become smaller. So I can make another rule—may I?

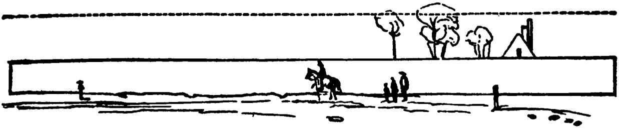
P. Yes.

Ion. When we make a drawing in perspective, with lines which are above the level of the eye, they must run down to the horizontal line.

L. And I suppose that if we were to make a number of squares in a long line, as the lines would all slant to the horizontal line, the distance from the squares to the line would get smaller and smaller—just as in the long row of squares we drew last week.

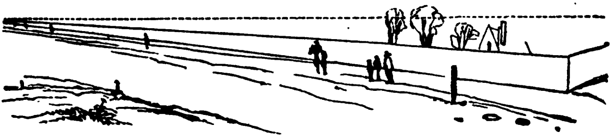
P. Yes.

I will make another drawing for you. Here is a front view of a long wall, which is below the level of the eye.



Ion. Is that the level of the eye, papa, *above* the wall? Then, when you drew it, you must have been looking out of a drawing-room window from some house opposite.

P. Yes, so I was. Here, again, is a side view of it. I was in a house at the end of the wall when I drew this. I could see round the corner.



You see in this picture, how the distance from the lines of the wall to the horizontal line seems to be gradually smaller—until the wall becomes so small that it seems to vanish altogether.

L. That is because, at last, there seems to be *no* distance between its lines and the horizontal line, for they all meet in one point.

P. And that point where the distance from the wall to the horizontal line is so small that you can hardly see it—that point which is so far from the eye that the object seems to vanish entirely,—would you like to know what it is called?

W. Yes, please, papa.

P. It is called THE VANISHING POINT.

W. And that is exactly the proper name for it.—Now, papa, we have learned enough, so we will make up another lesson.

Come, Lucy, and bring the slate.

Lesson 7. PERSPECTIVE.

1. *When we draw objects in perspective, a line should be drawn across the picture to show the level of the eye—so that we may know which objects are above the eye, and which are below it.*

This line we call the HORIZONTAL LINE.

2. *When we draw objects in perspective below the horizontal line, their lines must run up to that line.*

3. *When we draw objects in perspective above the horizontal line, the lines of the object must run down to that line.*

4. *The distant point on the horizontal line, where the lines of the object meet, is called the* VANISHING POINT.

P. I have never seen a line *run* yet, Lucy. If you make a drawing and set the lines running, they will very soon be all gone, and you will have only the blank paper again.

L. I mean, papa, they *slant* to the horizontal line.

P. Ah, I thought that perhaps you meant that. The word I generally use is "incline,"—say they *incline* in such a direction.

PLEASANT PAGES

FOR THE

17th Week. MONDAY. Moral Lesson.

HONESTY.

JAMES WALTERS.

P. What did we say about Honesty last week?

L. We said that honesty means more than speaking the truth. It means being careful *not to deprive* any one of that which belongs to him.

P. Then, listen to another tale. Do you know West Street?

L. I do, papa.

P. At No. 4, West Street, once lived James Walters, who was 15 years old; Emily Walters, who was 8½ years old; Margaret Martin, who was 59 years old; and her grandson, Jacob Martin, who was 13 years old.

They had only two rooms in that house—on the second floor; and this is the way they arranged. Margaret, who attended to all three of the children, slept in the back bedroom with Emily, and the two boys slept in the front room on a sofa which was *turned down* every night, and thus changed into a bed. At 6 o'clock every morning they all got up; and, when Margaret and Emily were dressed, James and Jacob went into their room to wash. When they were all ready, the two boys and Emily went for a walk across the fields, while Margaret made ready their breakfast.

They were, all of them, busy during the day—so, the best time to see them was in the evening—just before the candles were alight, when the fire made large shadows of their heads dance on the farthest wall in the room.

Near the fire sat a little girl who had just laid down her knitting, on purpose to stroke her large black cat, and make him comfortable—that girl was *Emily*.

By the side of her sat the two boys, who were busy colouring some maps, by which they each earned 7d. a-day.

The boy with light hair, and good-natured blue eyes, who was dressed in black, with a turn-down collar, and a broad black ribbon for a tie, was *James*. The other, who had such a broad sober face, such a brown skin, and such woolly black hair, was *Jacob*.

And where was *Margaret Martin?* There she sat—good old soul—in a grand arm-chair, which seemed too fine to be in such a small house. Indeed all the furniture was very good, except that it was a little old fashioned.

Margaret could not go on with her work, and having declared it was "blind man's holiday," there she sat in the shade just resting and thinking a little. She laid down her spectacles and some "stand-up" collars which she had been making for James, and sat watching the boys. Ah, they *would* keep on painting, even by the red flickering light; and as her dim eyes began to blink at them, their heads had a misty look, and seemed to grow as large as the shadows. Then she began to muse.

"Poor dear James—I have always loved him as much as my own grandson Jacob. I have nursed him ever since he was born, and his little sister too—I nursed his mother in the West Indies when she died—I saw his grandfather die. I was head nurse in his grandfather's house three years—in his father's house eighteen years. I helped to bring the children over to England with my own grandson,—and, when their poor father was ruined and died, I nursed him too.

"Now, when very few of their friends are left, and the two poor children are orphans;—when trouble has come upon them, and they are poor, God has spared me, perhaps to see them grow up. Ah, I hope that Jamie and my own boy will both be good and honest men!"

"Poor Jamie," she thought again—"his father little knew, when he paid so much to send him to school, and bought him learned books, and taught him learned things, that his boy would work for 7d. a-day. Never mind!—thank God for *all* things. May be He'll send brighter days yet."

And, just as she rose up to brighten the room by lighting the candles, and told Emily to sweep up the hearth, the beginning of brighter days came with a double knock at the door.

It came on—with a sound of footsteps coming up stairs. Up two flight of stairs—then, Mr. Howard, a country friend, entered the room.

"Good evening, Mrs. Martin!—Ah, you have managed to make your charges look happy, in spite of all the troubles. I am glad to see you all so comfortable and well. Come here, Miss Emmie, and kiss your old godfather, and then I will give you some news.

"I have been this evening with a friend of mine, who is going to publish a newspaper. He says that he shall require a clerk to keep his accounts, and another lad to attend to office business, and run errands. Would either of you like to run errands?"

"Yes, sir, I would," said Jacob.

"And do you think, sir," said James, "that I am good enough to be a clerk?"

"Yes, you will do, if you'll get some stand-up collars."

"Margaret is making some, sir. I have learned *book-keeping* at school, if that will be of use—and I can read Virgil—I learned something, too, of architecture, and astronomy, and the use of the globes."

"Very good; but you will not require all these things. You need not take your globe with you—only your pen and ink; but I think they will find that for you. But stop—yes, take with you some of the principles you have learned—the principles of truth, honesty, and the fear of God which your dear mother and nurse Margaret have taught you—and all the good principles which I hope you learned at school—they will *fit you for life*, more than all your learning—and will do more to make you a good clerk than astronomy or architecture.

"So, to-morrow I intend you to go with me to the city; and if my friend approves of you, and God should spare you, you will have to begin duty next Monday week. You had better come round to the hotel to-morrow morning, at nine o'clock. Good bye."

I cannot tell you to-day of all the joyful things that were said that night—and of all that James and Jacob said they would do when they were men. What a bright evening it was! The candles flared uproariously, but neither they, nor anything else in the room, looked half so bright as the faces of James and Jacob.

(To be continued.)

A PSALM OF LIFE.

TELL me not, in mournful numbers,
"Life is but an empty dream!"
For the soul is dead that slumbers,
And things are not what they seem.

Life is real! Life is earnest!
And the grave is not its goal;
"Dust thou art, to dust returnest,"
Was not spoken of the soul.

Not enjoyment, and not sorrow,
Is our destined end or way;
But to act, that each to-morrow
Find us farther than to-day.

Art is long, and time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave.

In the world's broad field of battle,
In the bivouac of Life,
Be not like dumb, driven cattle!
Be a hero in the strife!

Trust no Future, howe'er pleasant!
Let the dead Past bury its dead!
Act,—*act* in the living Present!
Heart within and God o'erhead!

Lives of great men all remind us
We can make *our* lives sublime,
And, departing, leave behind us
Footprints on the sands of time;

Footprints, that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing, shall take heart again.

Let us, then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labour and to wait.

HENRY WADSWORTH LONGFELLOW.

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK—THE LIMBS.

L. We had not time, mamma, to write out the lesson on the bones of the head, last Tuesday, so we have brought it to you now. Here it is—

Lesson 10. THE FRAMEWORK OF VERTEBRATED ANIMALS (*Continued*).

THE HEAD *may be divided into two parts*—

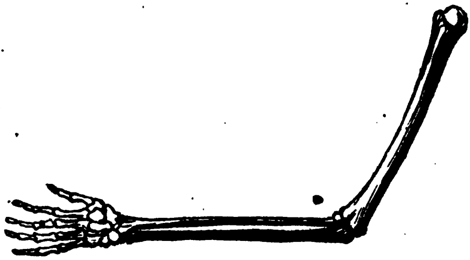
1. *The Skull,*
2. *The Face.*

The SKULL *is the upper part of the head, and may be divided from the face by a line drawn from the ear to the eyebrow.*

It consists of several bones. The principal are the Frontal bone—the Parietal bone—the Occipital bone—and the Temporal bone. These bones have serrated (or saw-like) edges, which are dovetailed together—and they form the shape of an arch, which is the best for giving strength, and protecting the brain.

The FACE *is the lower part of the head. Its principal parts are the four openings, the sockets for the eyes—the nasal orifice—the orifices for the ears—and the opening where the head is joined to the neck. The four bones, viz., the cheek bones—the nasal bone—the upper jaw bones—and the lower jaw bone.*

M. That will do very nicely. Now, Willie, for the bones of your limbs. Here is a drawing of the framework of your fore limbs—



Which are your fore limbs?

W. My arms are. And my legs are my hind limbs.

M. Look, Willie, at this picture which represents the bones of your arm. How many different parts do you observe?

W. I will count them. 1. The bone of the upper arm. 2. The *bones* of the lower arm (I never knew before that I had two bones there). 3. The hand bones. 4. The finger bones.

M. And there are some *joints* which are parts of your arm. The round end of the bone in your upper arm is part of a joint. You may call it the shoulder-joint.

W. Then the joints are—the shoulder-joint—the elbow-joint—the wrist-joint—and the finger-joints.

M. You had better now get the drawing of Willie's framework,* and examine the bones separately.

L. The *bone of the upper arm* is

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* Page 196.

a single bone, and is situated between the shoulder-blade, and elbow.

M. Now, observe in the picture, how it is united to the shoulder-bone.

Ion. I can see, mamma. There, is a round ball at the end of it, and that fits into a round hole in the shoulder-bone.

M. You should say—into a *socket.* I taught you that word. This ball fitting into the socket forms what is called a *ball and socket joint,* which I wish you to notice. Just try, Ion, and tell me in how many different ways you can move your arm.

Ion. A great many ways, I think. Here it goes—up and down—to the right, and to the left—this way, and that way—round, and round—all manner of ways!

M. Yes, this ball and socket joint is the most perfect joint in existence. Suppose, Lucy, that you were joining a new arm to your wooden doll, and wished it to move in an "up and down" direction, what sort of a joint would you require?

L. A small hinge, like the hinge of my work-box.

M. Then, if you also wished it to move to the right and left.

L. Then, I should require another hinge—that would be two hinges.

M. Yes, and to give it all the motion you have in your own arm, you would require, not three or four, but thirty or forty hinges.

W. You would want a hinge, Lucy, for the perpendicular motion so |, for the horizontal motion so —, for an oblique motion so ╲, or so ╱. For these four motions you would have to put four hinges in your doll's arm—that is, if you could fit them on—and then, to make the motion "round and round" you would—no, you couldn't make that with all the hinges in the world!

M. That motion "round and round"—is called a *rotary* motion. Tell me some other part of your body which has a rotary motion.

L. Here is something like a rotary motion at my wrist.

W. And in my leg joint there is. See, now that I am standing on one leg, I can turn the other round and round.

Ion. So, too, my head has a rotary motion on the top of my spine; but I cannot turn it quite round, only half way.

M. That is called a *semi*-rotary motion; but there is no joint which gives such a perfect rotary motion as that at your shoulder. Men have tried to imitate it, but they cannot make anything so perfect, and, because it gives motion in so many directions, they call it the *universal joint.* The joint at the other end of this bone you cannot see very well in the picture, but you can almost tell what sort of a joint it is, by trying to move your elbow.

L. It seems to be a hinge joint, mamma, for my elbow moves like a hinge.

M. That is right; one of you may now describe this bone—and, if you like, you may add its name—it is called *the Humerus.*

W. Is it not hollow, mamma?

M. Yes.

W. Then I will describe it. *The bone of the upper arm is a long, strong, hollow bone, situated between the shoulder and the elbow. It is joined to the shoulder by a ball and socket joint, and to the elbow by a hinge joint. It is called the* HUMERUS.

M. Now, we will examine the bones of the fore-arm.

W. There are two. I had never noticed them before to-day, but, I can feel them now. Just try, Lucy,—hold your arm very tight indeed, and then turn round your hand.

L. I can feel them both, and can see them in the drawing.

M. I must tell you one or two things about these bones which you cannot well observe. The lower bone is joined at one end to the elbow, while at the other end it is loose—it is called *the Ulna.* The smaller bone is joined to the wrist, but is *loose* at the elbow. This one is called *the Radius.* You may feel that the bones of the wrist are joined to this radius, and that when the wrist is turned round, the radius moves with it.

Now, there is much good arising from this plan, for, while the great bone, the ulna, which carries the muscles of the arm, swings up and down on its hinge, the lesser bone, the radius, which carries the hand, may be turning round at the same time. Thus, if you try, you will find that you can move every joint, the shoulder, elbow, and wrist joint, at once.

L. Now, I will try and describe the bones of the fore-arm.

The fore-arm contains two bones. The larger bone is joined at one end to the elbow by a hinge joint, and is loose at the wrist. It gives support to the flesh of the arm, and is called THE ULNA.

The smaller bone is loose at the elbow, but is joined to the wrist. It supports the hand, and is called THE RADIUS.

M. The bones of the hand are rather too minute for you to notice now. The hand contains, altogether, twenty-nine bones.

Next week, Willie, we will examine the framework of your hind limbs, and will make up the lesson.

I DARE NOT SCORN.

I MAY not *scorn* the meanest thing
That on the earth doth crawl;
The slave who dares not burst his chain,
The tyrant in his hall.

The vile oppressor, who hath made
The widowed mother mourn,
Though worthless, he before me stand—
I cannot, dare not *scorn.*

The darkest night that shrouds the sky,
Of beauty hath a share;
The blackest heart hath signs to tell
That God still lingers there.

I pity all that evil are—
I pity, and I mourn;
But the Supreme hath fashioned all,
And, oh! I *dare not scorn.*

ROBERT NICOLL.

THE SAXON KINGDOM.

EDWARD THE CONFESSOR.

HAROLD.

P. If you take your map of Europe, and look at the north of France, you will see a large district, which, when Hardicanute died, was called NORMANDY.

The people who lived there, were called Normans. They were some of the old Northmen or Danes, who, about 150 years ago, had come from Norway, and settled there. Duke Rollo, who headed them, was a roving pirate, who had left his country because his king would not allow him to steal ships. After establishing this new kingdom, he had an interview with the king of France, Charles the Simple, when he agreed to be the king's *vassal* for this piece of his land, which he had seized.

There is a tale about his interview with the king, which is rather curious, because it shows the independent spirit of this man Rollo and his followers.

When Rollo had made his agreement with the king, and was about to retire, he was told that he ought to kneel and kiss the king's foot in token of vassalage. "Kiss a man's foot!" replied the Duke with astonishment. Being told that it was the usual ceremony, and was necessary, Rollo, at length, beckoned to one of his soldiers, and bade him kiss the king's foot, in his stead. The soldier, laying hold of the king's leg, raised the foot to his mouth, and the king was thrown on his back, amid peals of laughter from the unmannerly Northmen.

Rollo and his men were taught Christianity by the French priests, and, as the children, when they grew up to be men and women, were married to the French, they changed their language and customs, and formed a new race of people—half Danish and half French—who were called NORMANS.

In the history of King Ethelred, I told you that when Sweyn, king of Denmark, came to England, to revenge the massacre of the Danes, Ethelred was obliged to flee, for a time, to Normandy. I said, too, that when Ethelred died, the Dane, Canute, was made king. Ethelred's son, EDWARD, did not like then to remain in England, but went back again to Normandy There he lived with his cousin, William, the Norman Duke, and was still living there when Canute, and Harold, and Hardicanute, had died.

Now, hear of some one who was living in *England* when Hardicanute died. I dare say you remember the brave Edmund Ironside, who fought great battles with Canute. In one of these battles, the Danes being defeated, were obliged to run away, and one of their principal captains, named Ulf, lost his way in the woods. After wandering all night, at daybreak he met a young peasant, driving a herd of oxen, so he saluted him, and asked him his name. "I am GODWIN, the son of Ulfnoth," said the young peasant—"and thou art a Dane." Ulf was thus obliged to confess who he was, but still he begged the young Saxon to show him the way to the Severn, where the Danish ships were at anchor. "Well," said Godwin, "it is foolish in a Dane to expect such a service from a Saxon;—besides, the way is long, and, as the country people are in arms, I may be killed." The Dane tried much to persuade him, and, drawing a gold ring from his finger, offered it to him. For a minute the young Saxon looked at it with great earnestness, and then returned it, saying, "I will take nothing from thee, but I will try to help thee." He therefore led the Dane to his father's cottage, concealed him all day long, and at night they prepared to depart together.

As they were going, the old peasant said to Ulf, "This Godwin, who risks his life for thee, is my only son. He cannot return among his countrymen; therefore take him with thee, and present him to thy king Canute, that he may enter his service." The Dane promised, and kept his word. The young Saxon peasant was well received in the Danish camp, and rising, by his own talents, from step to step, at the death of Hardicanute he had great riches, honour, and power, and was known over all England as the great EARL GODWIN.

EDWARD THE CONFESSOR.

Edward the son of Ethelred returned to his native land, and was made king. He was married to *Editha*, the daughter of Godwin, so that the people had now a Saxon king and queen again. Edward was not a wicked man like his father, but sometimes he was foolish. For instance, he began his reign very well, did much good to the people, and established good laws; yet he soon showed that he was more fond of the Norman people than the English,—and this was rather foolish. Again, he was not at all fond of his wife, and this was *very* foolish.

His liking for his old companions in Normandy increased very much,—so much so, that he was continually inviting fresh Normans to come and live here. To these men, who were only strangers, he gave many high offices. He put the fortresses in the hands of Norman captains. He made many Norman bishops, and filled his palace with his own Norman favourites. The evil increased so much, that, when any strange Normans arrived, they felt as if they were still in their own country. The king tried to make the nobles at his court speak the Norman language, and wear Norman coats, so that everything Norman became fashionable, just as all French things (except frogs) are fashionable now.

The old-fashioned Saxons, however, did not like this, and they murmured against it, but in vain. The Earl Godwin, and his five sons, who were much beloved by the people, tried to teach the king better, but he would not be taught, and, at last, was so angry, that he banished Godwin and his sons from the kingdom, and, soon after, put his wife away in a nunnery. He now carried his love for the Normans so far, that he secretly made a *will*, in which he promised that, when he died, his kingdom should be given to his Norman cousin, the Duke William.

William, now that Godwin was banished, came over on a visit to Edward. He was much surprised on landing, for wherever he went he was met by bands of Norman soldiers. The captains of the English fleet; the captains of the garrisons, and castle at Dover, where he landed; and the governors of many towns, were all Normans. The great clergy, who came to pay their respects to him, were Normans; and so, also, were the favourites of Edward, who respectfully ranged themselves round their chief.

All these things made William think secretly in his own mind, that, although Edward really had no power to give him the kingdom, he would certainly try to have it; and that, as soon as Edward died, he would come over and claim it, and try to conquer the people.

But the Earl Godwin, who was now banished, thought of this; and determined that when Edward died, one of his own sons, named Harold, should be king. Godwin was, as you may suppose, an active man, and would not long submit to banishment. So, he collected a fleet of ships, landed in England, and being supported by the people, he compelled Edward to let him return. As soon as he returned, he so frightened the Normans, that they nearly all fled, many of them as if they were running for their lives.

So great was Godwin's power at this time, that he caused sentence of banishment to be proclaimed against them, and very soon not a single Norman of importance could be seen in England.

A ROSY CHILD WENT FORTH TO PLAY.

A rosy child went forth to play,
  In the first flush of hope and pride,
Where sands in silver beauty lay,
  Made smooth by the retreating tide;
And kneeling on the trackless waste,
  Whence ebb'd the waters many a mile,
He rais'd in hot and trembling haste,
  Arch, wall, and tower—a goodly pile.

But, when the shades of evening fell,
  Veiling the blue and peaceful deep,
The tolling of the distant bell
  Call'd the boy builder home to sleep:—
He pass'd a long and restless night,
  Dreaming of structures tall and fair:—
He came with the returning light,
  And lo, the faithless sands were bare.

Less wise than that unthinking child,
  Are all that breathe of mortal birth,
Who grasp with strivings, warm and wild,
  The false and fading toys of earth.
Gold, learning, glory—what are they
  Without the faith that looks on high?
The sand forts of a child at play,
  Which are not when the wave goes by.

J. G. L.

BOILING WATER.

Ion. Papa, I have just thought of something. You said we were to have a lesson on the boiling water in the urn, and we have not heard a word about *boiling* water yet—

P. No, we have not. Well, here is the urn. The water inside is made to boil by the convection of heat.

W. What is meant by "convention of heat," papa?

P. I said *convection*—You shall hear. To-day, instead of making a lesson for you myself, I have brought you a book,* which contains many famous questions and answers—not only on water, but on many of the things around you.

Here is the book, you can read it yourselves.

What is meant by the CONVECTION *of* HEAT?

Heat communicated by being *carried* to another thing or place; as the hot water resting on the *bottom* of a kettle carries heat to the water through which it ascends.

Are LIQUIDS *good* CONDUCTORS *of heat?*

No; liquids are bad *conductors;* and are, therefore, made hot by *convection.*

How do you know that LIQUIDS *are* BAD CONDUCTORS *of heat?*

When a blacksmith immerses his red-hot iron in a tank of water, the water which surrounds the red-hot iron is made *boiling hot*, but the water *below* the surface remains quite cold.

Explain how WATER *is made* HOT?

The water *nearest the fire* is first heated, and (being heated) *rises to* the *top;* other cold water succeeding is *also* heated, and rises in turn; and this interchange keeps going on, till *all the water boils.*

Why is WATER *in such continued* FERMENT, *when it is* BOILING?

This commotion is mainly produced by the *ascending* and *descending currents* of hot and cold water. (The escape of *steam* from the water contributes also to increase this agitation.)

How do these two currents PASS *each other?*

The *hot ascending current* generally passes close by the metal sides of the kettle; while the *cold descending current* passes down the centre.

Why is HEAT *applied to the* BOTTOM, *and not to the top of a* KETTLE?

Because the heated water always *ascends* to the *surface,* heating the water through which it passes: if, therefore, heat were applied to the *top* of a vessel, the water *below the surface* would never be *heated.*

If you wish to COOL LIQUIDS, *where should the cold be applied?*

To the *top* of the *liquid;* because the *cold* portion will always *descend,* and allow the warmer parts to come in contact with the cooling substance.

Does BOILING *water get hotter by being* KEPT *on the* FIRE?

No; not if the steam be suffered to escape.

WHY *does not boiling water get* HOTTER *if the steam be suffered to* ESCAPE?

Because the *water* is converted into *steam* as fast as it boils; and the steam *carries away* the additional heat.

Is STEAM *visible or* INVISIBLE?

Steam is *invisible;* but when it

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* Dr. Brewer's Guide to the Scientific Knowledge of things familiar. London: Jarrold and Sons.

comes in contact with the air (being *condensed* into small drops) it instantly becomes visible.

How do you know that STEAM *is* INVISIBLE?

If you look at the spout of a boiling kettle, you will find that the steam (which issues from the spout) is always invisible for about *half an inch;* after which, *it becomes visible.*

WHY *is the steam* INVISIBLE *for only* HALF AN INCH, *and not either all* INVISIBLE *or all* VISIBLE?

The air is not able to condense the steam as it first issues from the spout; but when it *spreads* and comes in contact with a larger volume of air, the *invisible steam* is readily condensed into *visible drops.*

Why does WATER SIMMER *before it boils?*

Because the particles of water *near the bottom of the kettle* (being formed into *steam* sooner than the rest) *shoot upwards;* but are *condensed* again (as they rise) *by the colder water*, and produce what is called "simmering."

What is meant by SIMMERING?

A gentle tremor or *undulation* on the surface of the water. When water *simmers*, the bubbles *collapse* (or burst) *beneath the surface*, and the steam is condensed to *water again:* but when water *boils*, the bubbles *rise to the surface*, and *steam is thrown off.*

Why does BOILING WATER BUBBLE?

Because the *air and vapour* (rising through the water) are *entangled*, and force up bubbles in their effort to escape.

Why does a KETTLE SING, *when the water simmers?*

Because the *air* (entangled in the water) escapes by *fits and starts* through the *spout of the kettle*, which makes a noise like a wind instrument.

Why does NOT *a kettle* SING *when the water boils?*

Because (as *all* the water is *boiling hot)* the steam escapes in a *continuous stream*, and not by *fits* and *starts.*

When does a kettle sing MOST?

When it is set on the *hob* to boil.

Why does a kettle SING MORE *when it is set on the* SIDE *of a fire, than when it is set in the* MIDST *of the fire?*

Because (when the kettle is set on the *hob* to boil) the heat is applied very *partially*, and *one side made hotter than the other;* in consequence of which, the steam is more *entangled.*

Why does a KETTLE *sing when the boiling water begins to* COOL *again?*

Because the *upper* surface cools *first;* and the steam which rises from the lower part of the kettle is *again entangled*, and escapes fitfully.

What is meant when it is said, "that HEAT *drives the* PARTICLES *of water further* APART *from each other?"*

Water is composed of little globules, like very small grains of sand; the heat *drives* these particles away from each other; and (as they then require more *room*) the water *swells.*

But I have seen a KETTLE BOIL OVER, *although it has not been filled* FULL *of* WATER; *how do you account for* THAT?

If a fire be *very fierce*, the air and vapour are expelled so *rapidly* that the *bubbles are very numerous;* and (towering above one another) reach the *top of the kettle*, and *fall over.*

(To be continued.)

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY.

(Continued.)

P. We learned last week of the globe before it had any crust—when it was only one hard mass of rock.

I told you how it is supposed that this mass of matter *cooled down*, and that then the particles of vapour in the air united to form water.

This is, perhaps, the time you read of in the Scriptures, when "the earth was without form and void, and darkness was upon the face of the deep." How strange a place must this world have been, when all was darkness! But, how strange it must have sounded in the dark, when the Spirit of God moved on the face of the waters. and they began to make a rippling sound — or sometimes a rushing noise, as they washed backwards and forwards violently on the rocks.

Then the waters began their proper work—their appointed duty —a duty which they have been performing ever since, and are performing now. You have heard the proverb that "the constant dripping of water weareth away stones;" so the waters again and again wore away small fragments of rock, then more and more. These fragments became dissolved into small particles, and formed a sediment. The sediments being deposited on the surface of the Igneous Rocks, were very much changed by their heat, and their particles united again, and formed crystals.

In this way, after long ages, three great strata of these crystallized rocks were formed. These are now called PRIMARY ROCKS.

I told you that the waters are forming layers of rock and earth even now. If you go with me up the side of some mountain, you will see the water rushing down in streams. These streams, as they rush down quickly, carry away the particles of earth, and stones, the moss, pieces of wood, sticks, dead leaves, plants, and dead insects,—sometimes washing away a large piece of earth at once, in one great lump, with everything on it. Away it goes, with the stream, down the mountain's side into the river—either floating at the top, or swimming at the bottom—and, away goes the river, carrying it all down to the sea.

The rivers are doing this all day long, throughout every year—so, after many years, great quantities of earth are deposited at the bottom of the ocean, where they become hardened and form a new layer of rock.

Just in this way were made the next set of rocks. It appears, that after the Primary Rocks were formed, there must have been some dry land on the earth. Perhaps the beginning of these new rocks was the beginning of the *third day*—the time when God had said, "Let there be light," and when "He divided the waters from the waters," and said, "Let the dry land appear."

On this dry land there lived at first, green mosses, ferns, and other simple plants, such as we find in marshy soils. In time, there were also a few very humble animals. These, at first, were of the very lowest order, most of them being very little better than the vegetables, fastening themselves by stalks to the bottom of the sea.

L. Were those the *Radiated Animals*, papa?

P. Yes. There were many species of what we call Polypi, Corals, stone lilies, and thousands upon thousands of *shell-fish* in the sea. Some of these had a shell which was curled round like a horn powder-box;—they are called *Ammonites.* (I wish I had time to draw them for you—I will some day.) There was another, which I spoke of in our Natural History lesson, with sails something like the Nautilus. They are now called *Trilobites.*

W. But these shell-fish were higher animals than the radiated—they were *Molluscous Animals.*

P. Yes. And there were not only the soft-bodied or molluscous animals, but there were "sea-worms," and other animals something like the crab and lobster, which you know are *jointed* shell-fish.

Ion. They were even higher than the others, they were *Articulated Animals.*

P. Yes, and in the highest of this set of rocks, the Old Red Sandstone rocks.

L. Ah, that's a nice name for rocks!

P. Never mind their name. In the Old Red Sandstone have been found the remains of *fishes.*

W. Then, these were *Vertebrated* Animals. There is a sign of order again. After the minerals, and vegetables, came the *lowest* kind of animals, then a higher, and a higher class, and then the highest class.

P. Well, all these vegetables and animals living in the sea *were useful to make rocks.* The rivers, as I said, washed down the land plants and leaves with the pieces of stone. These things, with the sea-weed, and millions of animals, as they died sank to the bottom of the sea and settled. There they were pressed down by their own weight, and the weight of the water which changed them into stone. The rivers and sea, continuing to act thus for a very long period, at length formed another set of rocks, such as Slates, Silurian Rocks (called after the Silures, a tribe of ancient Britons), and Old Red Sandstone. These great strata were formed in the second period, and are now called TRANSITION ROCKS.

W. What is meant by transition, papa?

P. Transition means a passing from one thing to another, or from one state to another. These rocks are called transition rocks because they connect the primary or first rocks, made *before* them, with the secondary rocks, which were made after them.

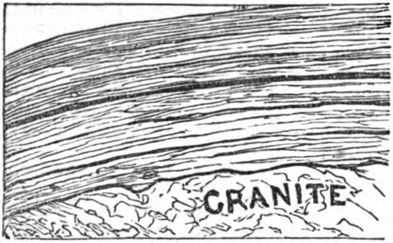
L. I wonder how it was that they were so thoroughly hardened and dried!

P. They were hardened, or many of the rocks were, by the action of the heat from beneath, which burst out occasionally—and made volcanoes in the sea and land. Some of these rocks were hardened very suddenly, for even now, after the lapse of unnumbered ages, *the ripple marks of the ocean* may be distinctly seen on some of the strata!

Thus you may learn how gradually the two first layers of rock were formed. The end of the formation of the transition rocks was perhaps the beginning of that great period which God's Word tells us was the fifth day. Perhaps it was not long after the time when He had said, "Let the waters bring forth abundantly the moving creature that hath life."

We shall hear something more of the fifth day, in the next lesson.

I have made a little drawing, by which you may be better able to understand the position of these rocks. Do not, however, suppose that they all lie *horizontally*—or as smoothly as they are drawn. You will hear soon, how the fire from beneath has acted upon the different strata. It has forced some of them into an oblique position; while others are even *perpendicular*.



Transition Rocks—with remains of Vegetables and Animals.

Primary Rocks—without Animal remains.

A MORNING HYMN.

"LET THERE BE LIGHT!" The Eternal spoke,
And from the abyss where darkness rode
The earliest dawn of nature broke,
And light around creation flowed:
The glad earth smiled to see the day,
The first-born day come blushing in;
The young day smiled to shed its ray
Upon a world untouched by sin.

"Let there be light!" O'er heaven and earth,
The God who first the day-beam poured,
Uttered again his fiat forth,
And shed the gospel's light abroad;
And like the dawn its cheering rays
On rich and poor were meant to fall,
Inspiring their Redeemer's praise
In lowly cot, and lordly hall.

Then come, when in the orient first
Flushes the signal-light for prayer;
Come with the earliest beams that burst
From God's bright throne of glory there;
Come, kneel to Him, who through the night
Hath watched above thy sleeping soul;
To Him whose mercies, like His light,
Are shed abroad from pole to pole.

CHARLES FENNO HOFFMAN.

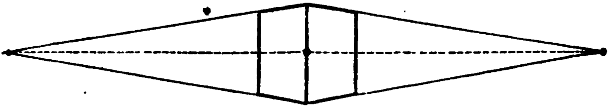
PERSPECTIVE.

THE POINT OF SIGHT—THE POINT OF STATION.

P. To-day I have brought you a square box to draw. I will place it before you so that the middle shall be exactly on a level with your eye. Now, as we are going to make a *perspective* view of it, what shall I draw on the paper first?

Ion. The horizontal line, papa, to show the height of the eye.

P. Now, I am going to place the drawing before you. I shall not place either of the sides opposite to your eye, but only one of the edges, so—



You can see by the large round dot, which point of the line your eye is opposite to.

Ion. Yes, papa. I am standing exactly opposite the front edge of the box.

P. Very well. Now I will give you two new names to remember. The place where you are now standing (opposite to the box) is called the *point of station.*

W. That is because he is stationed there, I suppose.

P. And the place on the horizontal line on which his eyes rests when he looks straight before him, is called *the point of sight.*

W. There, that dot is the point of sight, I suppose; but if he were to move a little to the right of it, the point of sight would be moved also.

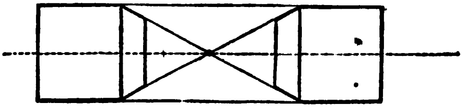
Ion. Because the *point of station* would be changed. I should *first* change my point of station, and then the point of sight must be changed with it, because the point of sight must be opposite to the point of station.

P. That is correct. You may have a point of sight in any part of the horizontal line. Indeed the point of sight means only what Ion said—"that part of the horizontal line which is exactly opposite to the point of station."

Now, I want you to think of something. Can you imagine to yourself, Lucy, a straight line drawn from Ion's eye to the point of sight.

L. We can all think of that—easily; and the line would form a right angle with the horizontal line.

P. Then, I will show you another picture—



Here are two boxes, one on each side of the point of sight.

Ion. And, papa, their lines *incline* to that point. They don't run to any vanishing points.

P. You say, Ion, "*their* lines incline"—which lines do you mean?

Ion. I mean the lines which are made for the side view.

P. Now you have not told me *which* of these lines are thus inclined. Two of the lines of the side view are perpendicular—they do not incline to the point of sight.

Ion. I mean, papa, the lines which are drawn for the top and bottom of the box—those which would be horizontal if the side of the square were placed in front.

P. Now you have expressed yourself correctly. You meant, then, to say, that in the side view, "the lines drawn for the top and bottom of the box, incline toward the point of sight." Those lines are really horizontal. You may therefore say, "the *horizontal* lines which mark the top and bottom of the box, must incline towards the point of sight."

Do you know why it is so?

L. They must be drawn so for the distant side of the box to appear smaller than the near side.

P. But why do they not incline to some *vanishing point*, just as the lines of the box do, in the first drawing—instead of inclining to the point of sight?

Ion. I cannot tell exactly. I can see by looking at the drawing, that you do not want a vanishing point, but I cannot tell *why*.

W. I think that really the point of sight is a sort of vanishing point.

P. Well, you are not far wrong, Willie; so think about it, and see next week whether you can tell me when lines should incline to a *vanishing point*, and when to a point of sight. You need not make up any lesson to-day. Good bye!

Ion. I think, Willie, now that papa has gone, that we had better repeat together what we have learned, or else we shall forget it.

W. Very well, Lucy and I will say it. *The point at which we stand to look at any object, is called* THE POINT OF STATION.

That part of the horizontal line which is opposite to the point of station, is called THE POINT OF SIGHT.

Sometimes when we draw an object in perspective, the horizontal lines must all incline to a point of sight instead of a vanishing point; but we do not yet know why.

TREES.

TREES!—ye are beautiful,
Gracefully bending,
O'er the lone valley's stream
Summer shade lending.

Trees!—ye are fanciful,
Gentle winds waving,
Changes in varied hue
Ever renewing.

Trees!—ye are withering,
Autumn leaves playing
Bear the dark record
Of nature's decaying.

Trees!—ye are desolate,
Verdant once springing,
Round your tall branches spread
Snowfalls are clinging

Trees!—ye are similes,
Fair lessons giving,
Through all seasons' changes,
Truths for the living.

K. H.

HONESTY.

JAMES WALTERS *(Continued).*

P. Yes. I said it would take me too long a time to tell you all that was said that evening—so, perhaps, I had better say nothing about it. They were *very* glad.

And the next morning they were very glad again. For the publisher engaged to take both James and Jacob, and said to them, "If you are both careful and honest boys, you may remain with me a long time—perhaps all your lives."

Perhaps, I need not say that it seemed a long time to "Next Monday week,"—for, I dare say you have often noticed how long the time seems when you are waiting. But when the Monday morning came, and the two boys set out on their course for life, old Margaret sat with Emily at the window watching them all the way down the street—and feeling rather proud—as it was the first time in their lives that they had *gone out to work.*

And when they had turned round the corner, she sat still thinking more thoughts.

"God speed them—and grant they may both prosper.—I can trust Jacob, but I am not so sure about Jamie. He has *heard* that truth is a good principle, but I do not think that he *feels sure* about it. The principle is not yet fixed in his mind as a good one."

W. Ah, I have heard men talk about *fixed* principles, and strong principles.

P. You know that when a foundation is not fixed and strong, the whole building sometimes comes down; so, when Truth is not fixed in our heart—

Ion. Then our other principles are "very shaky,"—we soon lose them.

P. And so it was with James. For a long time he was honest and true to his master, for he loved truth, but, he did not love it earnestly, just as one would love a great treasure, and be afraid to lose it. He did not know that this principle is a "pearl of great price."

If he had known this, he would have learned that we ought to keep to the truth in very little things.

"I cannot wait," said Jacob to him, one day—"we are to be at the office by 8 o'clock *exactly.* We do not let our master know when we are ten minutes too late—for we do not like—so that shows we are not truthful. But, then, we also *deprive* him of ten minutes' time, which he has payed us for. And that is not honest.—I can't wait!"

"Don't be so mean, Jacob!" said James. "Why do you make such a great fuss about such little things. I'm sure our master does not get to the office till 10 o'clock, and he does not care, so long as we get through our work."

"I have nothing to do with that," said Jacob; "I only care about *what I promised.* If he does not care whether I come, still I come because I said I would, and I feel that that is honest."

James, however, forgot this, and often had to walk to the City by himself. Sometimes he was twenty minutes after time, and, before the end of the first year, *he was always late.*

One day, as Jacob was dusting the office, James said to him, "Why, Jacob, did you go out to buy that sheet of letter paper?—I could have given you one from my desk."

"But then, again," said Jacob, "you would be depriving our master of it, and if you deprive him of the *least thing in the world*, it is not honest. We are not honest servants unless we care exactly as much for our master's good, as we do for our own."

"But it cannot matter about such little things," said James; "I always use this paper for my own letters."

"Yes, and sometimes the postage stamps, too," said Jacob. "Look at these two letters of yours, which are going out with the others! You have been using stamps which"—

But, just at this moment, their master came in to ask James a question; and Jacob saw that, as he passed the letters, and took up two or three to examine, James seemed *afraid* lest he should notice the two which belonged to him—and he said to himself, "Ah, James is not *quite sure* that he was doing right, after all."

Another day, as Jacob was talking to James, he said to him—"These circulars might be delivered by hand, every month—so there would be 3s. 6d. saved each time. If they were your own letters you would let me take them. This is what I call honesty. Not only,—we must *not deprive*, but we must try and *save*. To be *quite* honest servants, we must take just as much care of our master's things as we do of our own—I said so before."

But, James did not mind. He could not, unless the principle of honesty was a *fixed* principle. He had forgotten to be strictly honest in little things, and now he could not always *hold fast* to the principle in greater matters,—and his master noticed this. He noticed Jacob, too, who still loved to be quite honest always, and took great pleasure in being as honest as he possibly could. When his master saw this, he did not forget.

So matters went on,—and in time there came a change.

Margaret had waited at the window in West Street an hour beyond the time—so the blinds had been drawn, and the tea made ready, while the fire flickered, and the candles flared, as they had done four years before. That evening, James came home very late, and Jacob an hour after him; and, when James, who had been sad and silent all the evening, had left the room, Jacob told his grandmother the news that James had been made an under clerk,—and, that he, Jacob, had been promoted to James's place.

I never knew the exact reason why this happened—but heard that their master had long been accustomed *to trust* Jacob more than James.

Five more years passed on. Those lodgings in West Street had been let to somebody else, and a greater change still had come. Jacob had a house of his own; and James had lodgings in it. Emily had grown up rather tall, and I heard, that in two more years she was to be Jacob's wife.

Margaret was still a kind nurse to them all. She tried to cheer up James—but he had a sad look;

she tried still to teach him the honest principle, but he had not learned it well when he was a boy, and he could not learn it properly now. So he did not "hold up his head like a man"—and his friends often said of him, "Poor fellow."

"Poor fellow," and yet he had ever so much Latin and Greek in his head.

L. And architecture.

W. And astronomy.

Ion. And the use of the globes.

P. And had not learned *perfectly* the principle of honesty. So we still say—"poor" fellow.

W. But he was not *dis*honest, papa.

P. No; only he did not love honesty enough to make it a *fixed* principle. He did not love honesty enough to learn Jacob's good lesson—

An honest servant cares for his master's interest as much as he cares for his own.

A SONG FOR AUGUST.

HARK! amid the "shivery leaf sounds" of the forest comes a voice,
From the vale, and from the upland, and it saith—"Rejoice! rejoice!
For the corn is ripe and heavy, full and golden is the ear,
'Tis the teeming time of plenty, 'tis the feast-time of the year!

"Lo, the crimson poppy flushes all the landscape, where the grain
Seems a sea of gold whose billows flash the sunbeams back again;
Russet husks in hazel copses cluster like to swarming bees,
And at night the broad moon shineth upon laden orchard-trees.

"Lo, the gadding vine is hanging ripening clusters in the sun,
And the thick-set bramble berries now a ruddy tinge have won;
And the hops with fragrant tassels deck the poles round which they climb—
Shout ye hills, and shout ye vallies, 'tis the bounteous *harvest* time."

And again, amid the leaf sounds of the forest comes a voice,
Sounding like a solemn dirge-note, yet it saith:—"Rejoice! rejoice!
But rejoice with fear and trembling, as ye think upon the day
When the *latter harvest* cometh, and the earth shall pass away.

"Are ye ready for the Reaper? are ye wheat or are ye tares?
Can ye bear the awful flashing of the sickle that *He* bears?
Are ye meet for heavenly garners, full and heavy like the corn,
Or but rank weeds that shall unto everlasting flames be borne?"

Lo, the land is overspread with hawkweed bright, and marigold
Flaunting gaily; where will they be when the winter winds blow cold?
Where will they be—where will *ye* be—if ye have no fruits to show?
Many lessons Nature teaches; ponder on them as ye go!

H. G. ADAMS.

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK—THE LIMBS.

M. You learned, Willie, that there are two bones in your forearm. Name them.

W. The bone which carries the arm, called THE ULNA;—and

The bone which carries the wrist and hand, called THE RADIUS.

Ion. The ulna, mamma, you said, was joined to the *elbow* by a hinge joint, so as to give it a motion up and down.

W. And the radius is joined to the *wrist* by another kind of joint, which gives it a rotary motion.

M. And, I also said that these two motions are of great importance, so that the hand may have all possible *freedom of motion.* You, Willie, have to use your hand all day long, for all kinds of purposes. Sometimes you grasp objects behind you—or objects at your side—sometimes you have to grasp objects which twist round in every variety of direction—or change their direction suddenly.

W. Yes, when we swing in our playground, how we twirl about sometimes.

M. These two bones, however, cannot be found in all vertebrated animals. If you notice the fore limb of a horse, you will find that he has not any hand as you have, but only a solid hoof—so also, the cows and many other animals have hoofs.

As these animals can only use their hoofs for walking, they do not require so much motion in the joints—and, if you examine the bones of their fore limbs, you will find that they have only one bone, the *radius;* scarcely a trace of the *ulna* can be seen.

The apes and monkeys, again, who climb round, and live on, the branches of trees—jumping and swinging from morning till night in all directions have both of these bones. So, too, have the sloths, which live *hanging underneath* the branches—and the flesh-eating animals, which use their claws for seizing and struggling with their powerful prey.

But we must not stop now, Willie, to compare your framework with that of others—you will have to compare most of your bones with those of the lower animals;—as we proceed, perhaps we shall find curious alterations in some of them.

W. Now, mamma, we are to describe the bones of the hind limbs—the legs. I have brought out the picture.

M. You may point out these bones, but it will hardly be necessary to describe them,—for, by comparing them with those of the arm, you will find that they are much alike.

W. Yes the bone of the *upper leg* is like that of the upper arm—only it is rather larger—and it has a ball and a socket joint at the top. What is that joint called, mamma?

M. It is called the *hip* joint—and, the long bone is called the *thigh bone.* Instead of an elbow joint in the leg, we have—

L. A *knee* joint.

M. And there is a little bone in front of the knee such as you do not find in the elbow. It serves to protect the knee, and has other more curious uses.

W. I see it in the drawing, mamma, with its name. It is called *the knee pan.*

M. Instead of a radius in the

leg, there is a similar bone called *the shin bone.* Instead of *the ulna,* there is the *splint bone,* or brace bone, as it is sometimes called.

To correspond with the wrist we have—

W. The *ankle.*

M. For the palm of the hand—

L. The *foot.*

M. Instead of fingers—

Ion. *Toes.*

M. One bone in particular is worthy of notice, because it forms an important part of the foot—it is called *the heel bone.*

W. Now, mamma, I will count up the parts of my leg. See. I will point to each one as I name it.

The hip joint,
The knee joint,
The ankle joint,
The thigh bone,
The knee pan,
The shin bone,
The splint bone,
The foot,
The heel,
The toes.

Now we can make a lesson.

Lesson 11. THE FRAMEWORK OF VERTEBRATED ANIMALS (*Continued*).

The two pair of limbs in Vertebrated Animals are—

1. *The fore limbs.*
2. *The hind limbs.*

The FORE LIMBS, *or arms, have several parts: viz.—The shoulder joint—the elbow joint—the wrist joint—the bone of the upper arm,—the bones of the fore-arm—the hand—and the fingers.*

The HIND LIMBS *have several parts corresponding to those of the fore limbs: viz.—The hip joint—the knee joint—the ankle joint—the thigh bone—the knee pan—the shin bone—the splint bone—the instep—the heel—the toes.*

W. There, mamma. Does that finish the lessons on our framework?

M. Not quite—there are several other facts which we might notice, but I will only point out one thing more—that is, the *uniformity* of this framework.

If you draw a line through the middle of a vertebrated animal, from the head to the foot, you will find that both halves have the same number of bones, they are also similar in shape—or, as we say, *uniform.*

W. That is only a Latin word for "one shape," mamma.

M. There are altogether 256 of these bones—(if we count the teeth, which cannot strictly be called bones). Suppose, now, that, to finish our framework lessons, I make a *list* of all your bones. If we have not time to learn all their uses, there will be no harm in remembering their names.

Ion. Oh, do, mamma, please!—and will you write their *Latin* names, too, because one day we might want to know them.

W. And, mamma, will you be kind enough to write how many there are of each kind, so that we may know how many there are which we have not noticed.

M. Very well.—

VERTEBRATED ANIMALS.

WILLIE'S FRAMEWORK.

The framework of vertebrated animals may be divided into three parts—the bones of the Trunk, Head, and Limbs.

THE PRINCIPAL BONES OF THE TRUNK ARE

33	The Spine,	*Columna spinalis.*
24	The Ribs,	*Costæ.*
2	The Breast bone,*	*Sternum.*
2	The Shoulder bones,	*Scapulæ.*
2	The Collar bones,	*Claviculæ.*
2	*(And two other bones.)*	

THE PRINCIPAL BONES OF THE HEAD ARE

1	The Frontal bone,	*Os frontis.*
2	The Parietal bones,	*Ossa parietalia.*
1	The Occipital bone,	*Os occipitis.*
2	The Temple bones,	*Ossa temporum.*
2	The Cheek bones,	*Ossa malarum.*
2	The Upper Jaw bones,	*Ossa maxillaria superiora.*
1	The Lower Jaw bone,	*Ossa maxillare inferius.*
2	The Nasal Bones,	*Ossa nasi.*
32	The Teeth,†	*Dentes.*
18	*(And eighteen others.)*	

THE PRINCIPAL BONES OF THE LIMBS ARE

2	The Upper Arm bone,	*Humerus.*
2	The Radius (Lower Arm),	*Radius.*
2	The Ulna,	*Ulna.*
16	The Wrist,	*Carpus.*
10	The Hand,	*Metacarpus.*
28	The Fingers and Thumbs,	*Phalanges.*
4	Thumb bones,	*Ossa sesamoidea.*
2	The Thigh bone,	*Femur.*
2	The Knee pan,	*Patella.*
2	The Shin bone,	*Tibia.*
2	The Splint bone,	*Fibula.*
14	The Ankle,	*Tarsus.*
10	The Foot,	*Metatarsus.*
28	The Toes,	*Phalanges.*
4	Great Toe bones.	*Ossa sesamoidea.*
256		

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* The breast bone contains two bones.

† These are not strictly bones—although an essential part of the framework.

THE SAXON KINGDOM.

EDWARD THE CONFESSOR.

HAROLD.

P. But the Normans, although driven away by Godwin, soon tried to return.

One by one they came back to England, dropping in upon their dear friend Edward, at whose palace many of them remained.

Duke William knew, that, when Edward might die, Godwin's son Harold would expect to be king—but, still he *hoped* for England—and determined to gain the crown, even by force.

It happened that Harold came to Normandy, on a visit to William. William treated him like a prince, with great kindness and splendour; and, one day he told Harold, as a secret, that he had been promised the kingdom of England by King Edward; and persuaded him to take an oath, that whenever Edward should die, he would help to gain the crown for him.

Not long after this, in the year 1066, Edward the Confessor died, declaring, just before his death, that the proper person to succeed him was—Harold! This was what the English people wanted, for they loved Harold and his father very much,—so, the day after Edward's funeral, Harold was elected and anointed king, with great joy from the whole nation, who said that he was not bound to keep his oath to William.

Very quickly the news reached Normandy, that Edward was dead, so William prepared to come over directly and be king—but, very quickly after that, came the bad news that Harold had broken his oath, and allowed himself to be crowned. William was, therefore, full of anger, but he hid his feelings, endeavoured to persuade Harold to keep his promise, and sent him one or two kind messages, but in vain.

When, therefore, the Normans found that Harold would not yield, they prepared to come over to England by thousands, and to conquer with the sword. Immediately all Normandy was busy with preparations. In all the shops of the smiths and armourers, was heard the clanging sound of the anvil and hammer, and was seen the sight of busy men making lances, swords, helmets, and coats of mail;—outside these shops were the porters waiting till the armour was finished, and carrying it away to the ships. Everywhere the story of the *broken oath* roused the people to help William. The clergy, who were *very* angry, collected money and brought it to him. The knights and noblemen provided him with armed men,—and those who could not find soldiers promised to help him themselves. In all the countries round—east and west, north and south was proclaimed the expedition which would sail from Normandy, to punish the perjured Harold. William promised that those who went should be made rich with plunder;—some should have money, some lands,—another, a rich English wife, — others should have large houses,—others, should be governors of castles and towns,—and some, should be made *bishops!* The clergy, too, made promises of good things from heaven, and of sure salvation to all who helped the "holy cause."—So, from far and near came crowds of anxious men, all wishing to share in so good a chance—all ready to kill and steal. A message, too (or *bull*, as it was called), arrived from the Pope, at Rome, bringing William the Pope's blessing,—a splendid banner, which had been consecrated,—and one of the Apostle Peter's hairs, set in a diamond ring.

W. What *was* the use of the Pope sending him those things?

Ion. I should say that he must have been a bad Pope to bless men who were going to kill and steal.

P. Hush, Ion, and "weigh your words." You should not decide so quickly that a man is *bad*. Always be very slow to say so of any one. He might not have known better. Let us proceed with the history. With all these fine things from the Pope, William and his followers were much encouraged. After waiting many weeks for good weather, their large fleet set sail on the 27th September, 1066. There were four hundred vessels, besides a thousand "transports." Duke William's ship led the way, with sails of different colours, having three Norman lions painted on them —while the Pope's consecrated banner was seen flying at the mast head.

There were, altogether, about *sixty thousand souls*.

King Harold—who was waiting for them in England—found suddenly that he had other enemies to fight against. Just before William set sail, another fleet of ships started from Norway—headed by Harold's own brother, Tostig, and the famous chief, Harold of Norway. They landed in the north of England, but were soon met by Harold, who defeated them. Both Tostig and Harold of Norway were slain; the Norwegians fled, and Harold returned to the south to meet William.

William, by this time, had landed his soldiers near Hastings, in Sussex. He had encamped his army, and was waiting for Harold when he came.

The time had now come for a mortal struggle between two nations, and thousands of men were waiting to slay one another, for the sake of these two men, William and Harold. 'Twas a solemn time when the night came on, and the pale moon shone on their camps. On the side of William were some of the bravest men in Europe. There were knights from the banks of the Rhine, from Brittany, Bologne, Flanders, and France—who spent the night in fasting and prayer. On the side of Harold were the best of his soldiers, who were full of glee for their victory over the Norwegians,—they spent the night in feasting, drinking, and mirth. So passed the hours till the daylight came, when these two armies rushed on each other and fought from nine in the morning until the end of the day, like so many wolves. Then, Harold was slain with an arrow in his eye, and many wounds in his body. Both armies continued fighting, even in the dark, until the Saxons had fled, and William was declared to have conquered.

W. Is that the end, papa?—but I have been waiting to hear you tell us about *the battle*.

P. Ah, I should not like to describe that to you, and I do not think you would like to hear it. Suppose I were to take great pains, and relate to you, carefully, how a butcher kills an ox. How he first ties him up—then, as the poor brute turns round his eye to look at him, takes a pole-axe and stuns him — then takes hold of the animal's neck, and with a bright sharp knife—

L. Oh no, papa. Please do not say it—we don't want to hear about *that.*

P. Then all that belongs to the history of the battle, and matters that are much worse. I am sure you will not like to hear that many hundreds of these men carved each other with swords, poked spears and arrows into each others' eyes—without even first using a pole-axe. If you cannot bear to hear an account of the killing of an ox, but say it is too horrible,—how much more dreadful 'twould be if I described to you the butchering of men.

L. And if it is too shocking to be described, how much more shocking it must be when men really do it!

P. We are now at the end of another period of English history.

W. And we have not made up any lesson since the end of the *period of the Saxon Heptarchy.*

P. But to-day you shall make up a good long lesson. We will make an account of the different kings we have learned about;—and, as I think you may forget their *names,* we will write against each king's name one *fact* which may have occurred in his reign—and thus, when you remember the fact, you will be almost sure to recollect the king's name with it.

HEROES.

ALAS for men! that they should be so blind;
That they should laud these scourges of their kind;
Call each man glorious who has led a host,
And him most glorious who has murdered most.
Alas! that men should lavish upon these
The most obsequious homage of their knees—
The most obstreperous flattery of their tongue;
That these alone should be by poets sung;
That good men's names should to oblivion fall,
But those of *heroes* fill the mouths of all!
That those who labour in the arts of peace,
Making the nations prosper and increase,
Should fill a nameless and unhonoured grave,
Their worth forgotten by the crowds they save—
But that the leaders who despoil the earth,
Fill it with tears, and quench its children's mirth,
Should with their statues block the public way,
And stand adored as demi-gods for aye!
False greatness! where the pedestal for one,
Is on the heads of multitudes undone!
False admiration! given, not understood:
False glory! only to be gained by blood.

CHARLES MACKAY.

HISTORY OF ENGLAND.

THE ROMAN PERIOD—THE PERIOD OF THE SAXON INVASION—THE PERIOD OF THE SAXON HEPTARCHY—AND THE PERIOD OF THE SAXON KINGDOM (FROM 55, B.C., TO 1066, A.D.)

THE ROMAN PERIOD.

B.C.

55. **Julius Cæsar.** Opposed by **Cassibelaunus.**

Claudius Cæsar. Opposed by **Caractacus.**

Nero Cæsar. Opposed by **Boadicea.**

A.D. **Vespasian.** Subdued the **whole nation.**

430. **Valentinian the Younger.** The Romans left the island.

The Irruptions of the Picts and Scots.

THE PERIOD OF THE SAXON INVASION.

450. **Hengist and Horsa** came to assist the **Britons.**

Fresh Saxon Tribes arrived to conquer the Britons.

600. **Seven Saxon Kingdoms** established by these tribes.

THE PERIOD OF THE SAXON HEPTARCHY.

The Seven Saxon Chiefs. Continual disputes and wars.

The Seven Saxon Chiefs conquered by the **King of Wessex.**

THE PERIOD OF THE SAXON KINGDOM.

827. **Egbert.** The first King of all England.

Ethelwolf,
Ethelwald,
Ethelbert,
Ethelred. } Unimportant kings, continually engaged in struggles with the **Danes.**

871. **Alfred the Great.** Conquered the Danes, and caused their chief to become Christian.

Edward. Built walls and castles for protection from the Danes.

Athelstane. Encouraged commerce.

Edmund. Was stabbed by a robber.

Edred. The influence of the monk Dunstan, who forbade the clergy to marry.

Edwy. Dunstan causes Edwy's queen, **Elgiva,** to be carried away, and murdered.

959. **Edgar.** Destroyed the wolves in England and Wales—murdered a nobleman to marry his wife, **Elfrida.**

Edward (the Martyr). Murdered by his step-mother, Elfrida.

Ethelred. Massacred all the Danes in England.

Edmund Ironside. Divided England with Canute.

(The Three Danish Kings.)

1016. **Canute.** A wise and powerful king. He reproved his courtiers for their flattery.

Harold. Murdered his half-brother, Alfred.

Hardicanute. A glutton.

Edward the Confessor. Was too partial to the Norman people.

1066. **Harold.** The son of Earl Godwin, killed in the battle of Hastings (1066).

BOILING WATER
(Continued).

What causes the RATTLING NOISE, *so often made by the* LID *of a saucepan or boiler?*

The steam (seeking to escape) *forces up the lid* of the boiler, and the *weight* of the lid carries it *back again:* this being done *frequently,* produces a rattling noise.

If the steam COULD NOT LIFT UP THE LID *of the boiler, how would it escape?*

If the lid fitted so tightly, that the steam could not raise it up, the boiler would *burst into fragments,* and the consequences might be fatal.

Why do STEAM-ENGINES *sometimes* BURST?

Steam is very *elastic;* and this elasticity increases in a greater proportion than the heat which produces it; unless, therefore, some *vent* be freely allowed, the steam will burst the vessel which confined it.

What BECOMES *of the* STEAM? *for it soon vanishes.*

After it has been condensed into mist it is *dissolved by the air,* and dispersed abroad as *invisible vapour.*

And what BECOMES *of the* INVISIBLE VAPOUR?

Being *lighter* than air, it *ascends* to the upper regions of the atmosphere, where (being again *condensed)* it contributes to form *clouds.*

Why does a METAL SPOON *(left in a saucepan)* RETARD *the process of* BOILING?

Because the metal spoon (being an excellent *conductor) carries off the heat from the water;* and (as heat is carried off by the spoon) the water takes a longer time to boil.

Why will a POT *(filled with water)* NEVER BOIL, *when immersed in* ANOTHER *vessel full of water also?*

Because water can never be heated *above the boiling point:* all the heat absorbed by water after it *boils,* is employed in generating *steam.*

How does the conversion of water into steam prevent the INNER POT *from* BOILING?

Directly the water in the larger pot is *boiling hot* (or 212°), *steam is formed, and carries off some of its heat;* therefore, 212° of heat can never *pass through it,* to raise the *inner* vessel to *boiling heat.*

Why do SUGAR, SALT, *&c.* RETARD *the process of* BOILING?

Because they increase the *density* of water; and whatever increases the *density* of a fluid, retards its boiling.

If you want water to boil, without COMING IN CONTACT *with the* SAUCEPAN, *what plan must you adopt?*

Immerse the pot (containing the water to be boiled) in a saucepan containing *strong brine,* or sugar.

Why would the INNER *vessel boil, if the* OUTER *vessel contained strong* BRINE?

Though *water* boils at 212° of heat, yet *brine* will not boil till raised to 218° or 220°. Therefore, 212° of heat may easily pass through brine, *to raise the vessel immersed in it to boiling heat,* before any of it is *carried of by steam.*

Why will brine impart to another vessel MORE *than* 212°, *ana water* NOT SO MUCH?

Because both liquids will *impart heat* till they *boil;* and then they can *impart heat no longer.*

Why can they impart no EXTRA *heat after they boil?*

Because all *extra* heat is spent in *making steam.* Hence water will not boil a vessel of *water* immersed in it, because it cannot impart to it 212° of heat, but *brine* will; because it can impart *more than* 212° *of heat*, before it is *itself* converted into steam.

W. These questions are very hard questions, papa, and I do not understand all the answers yet.

P. I did not suppose that you would. I would advise you to take these questions, and read them over very frequently. Learn the answers by heart. Shall I tell you how to do it? Take the book down in the kitchen, sit by the side of the kettle, and prove every answer, whether it is correct or not.

Now, as we have a few minutes more, I will amuse you. This is our *recapitulation* week. So we will talk a little about the old lessons.

To-day, I will describe some of the objects to you; and then, you may see if you can tell me their names.

OBJECT LESSON.

THE TABLE-CLOTH—BREAD—BUTTER—SUGAR—MILK—EGG—SALT—COCOA—WATER.

Now, listen—and tell me which of the above objects I am thinking about.

I am thinking of an object which is *liquid, fluid, penetrating, solvent.*

W. That is WATER, papa.

P. You should not be in such a hurry to speak, Willie—wait until my description is finished. Now I must begin it again. *This object is liquid, fluid, penetrating, solvent, white, opaque, natural, and nutritious.*

L. There, Willie!—it is not water—it is MILK.

P. That is right. Now, I'll think of another. It is white, opaque, thin.

W. That is milk, again!

P. Do, Willie, keep your tongue in order. Boys should always be slow to speak, as well as men. Again—it is white—opaque—thin and *fibrous!*

Ion. Then you are thinking of THE TABLE-CLOTH.

P. Right. Now again; there is a substance which is opaque, natural, granulous, brown, and sweet.

L. That is SUGAR.

P. Now think of some substances which are alike, and arrange them into classes.

Write down the names of six *granulous* substances?

Tell me twelve *nutritious* substances?

Twelve opaque substances?

Ten substances which are *liquid* and *nutritious*?

Twelve *animal* substances fit for food?

Twelve *vegetable* substances used as food?

Two *mineral* substances used with our food?

Six *adhesive* substances?

Six *sticky* substances which are not adhesive?

Ten *brittle* substances?

Four *crisp* substances?

Twelve *transparent* substances?

Six *semi*-transparent substances?

Six objects which are *white* and *natural*?

Six *stimulating* substances?

Something which is *refreshing*, but not stimulating?

THE TRAVELLER THROUGH ENGLAND.

WESTMORELAND.

My dear Children,—

I am very sorry to tell you that Peg slipped in coming along one of the country roads yesterday, and hurt her ankle, and that I have myself, for the last two days, been suffering from an attack of rheumatism—Ah! you don't know what rheumatism is! I am still in Kendal, and therefore can only send you the notes on the county of Westmoreland, which I forgot in my last letter.

I think I told you that the other evening, I met a gentleman at the inn, who had been to Appleby.

He told me that Appleby is situated on the river Eden, that it was once a very large town, but now is not so important as Kendal. It has suffered in the same way as Carlisle, for, in the wars with the Scots, it was burned twice, and has never since recovered.

There is nothing remarkable in the town except the square castle, situated on the high ground near the banks of the Eden.

I did not hear of anything else concerning this county—except that in some parts very good *slate* is found—such as we use for the roofs of houses, and for writing upon.

I therefore looked at the map for the shape of Westmoreland, and its boundaries; and then made my notes in the order which your papa wished—writing about the shape—the boundaries—the soil—the surface—the rivers—the capital and towns—and the name, according to your own plan—so I hope dear children that you will be pleased with them.

WESTMORELAND.

(Shape)—*The county of Westmoreland is nearly of the shape of a vine leaf.*

(Boundaries)—*It is bounded on the north by Cumberland; on the east by Yorkshire; on the south and west by Lancashire.*

(Soil)—*The soil of this county is not very fertile, but on the western side contains very large moors, inhabited by geese and grouse. Good slate is found here.*

The county is chiefly noted for its beautiful lakes. The principal are Ullswater, *about* 9 *miles long—and* Windermere, *the largest in England, nearly* 15 *miles long. They are both surrounded by enchanting scenery. The latter one contains fifteen small islands; and near Ullswater is a village called Pooley, where some remarkable echoes may be heard amongst the rocks.*

(Surface)—*Many of the old mansions and farm-houses in this county are built of stone, and are surrounded by court-yards, with heavy stone walls. These were built in the times of the "Border war," to protect the cattle and sheep from the moss-troopers.*

(Rivers)—*The principal rivers are the* Eden, *on which Appleby is situated, and the* Ken, *on which is Kendal.*

(Capital and Towns)—*The capital is* Appleby, *an inconsiderable town with a large square castle.* Kendal *is a more important town, and has a good trade in woollen cloths, baizes, druggets, and stockings.*

(Name)—*Westmoreland is supposed to have been so called, from the moors situated on the western side.*

I perceive by your papa's letter, that this is your week for *recapi-*

tulation—so in the course of this evening, I will write you a page of questions, and then I shall know whether you have remembered all that I have written to you.

Which of you will answer the greatest number? Perhaps, one of you will answer them all.

I am, dear children,
Your affectionate friend,
HENRY YOUNG.

ENGLISH GEOGRAPHY.

QUESTIONS ON THE COUNTIES OF NORTHUMBERLAND, CUMBERLAND, AND WESTMORELAND.

1. I know a mountain, where black eagles once built their nests. What is its name, and in which county is it?

2. But which is the *highest* mountain in England?

3. And which is the largest lake in England?

4. Where is the principal black lead mine?

5. I'm trying to remember a town. It has a fine bridge, a cathedral, and a castle where an unfortunate queen once lived. There are walls round this town which caused it to be besieged twice during the civil war. It is on the river Eden. What is its name?

6. I'm thinking of another town. Peg seemed to know it when we reached it. Like Carlisle, it has a fine bridge, a castle and fort, and is surrounded by walls. So, also, on account of its walls, it has been besieged several times—once by KING EDWARD THE FIRST. Even more salmon is sold here, than at Carlisle. Its principal trade is in pickled salmon. It is an independent town. What is its name, and on what river is it?

7. Tell me a town noted for coals?

8. Another town?

9. Another?

10. On what river are these three towns?

11. Why has one of them the word "mouth" at the end of its name?

12. Did you ever hear of any other English towns with the word *mouth* in their names?

13. Tell me of a capital which is an inconsiderable town?

14. If you were to walk from Berwick to Newcastle—what remarkable places would you see on your road?

15. You have heard of seven castles—tell me their names?

16. Tell me the names of four islands belonging to these counties?

17. *How many* islands have I spoken of altogether?*

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* The Author would anxiously press upon parents the importance of inducing the children to exercise their minds and memories with such a series of questions. They should be continually trained, not only in collecting, arranging, and storing,—but in *re*-collecting ideas. The registering of old facts is not so *pleasant* to children, as the reaching forward to new ones. They like "to hear the news"—but if the discipline of mind gained by the less pleasant process be lost sight of, it is a great pity.

Offer the children any inducement to repeat or *write out* the answers. The best inducement is—the advantage they will bring to themselves.

PERSPECTIVE.

THE POINT OF SIGHT *(Continued)*.

P. Now, can you answer the question I gave you last week? I will say it again. Why do some lines in perspective incline to a vanishing point, and why do others incline to a point of sight?

L. We have been trying to find out, papa, but we cannot tell.

P. Well, then,—let us look back at the drawings made last week. How many lines incline to the point of sight in the first drawing?

L. None, papa. The point of sight in the drawing is on the front edge of the box, and the lines are running away from it to the two vanishing points.

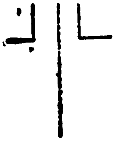
P. Now examine the second picture.

Ion. There is no vanishing point at all, papa, but the lines of both squares incline to the point of sight.

P. If you pay attention, I will soon make you understand why that is so. Do you remember that you imagined a straight line drawn from Ion's eye at the point of station to the point of sight.

L. Yes; and we said it would make a right angle with the horizontal line.

P. And so, also, the sides of the two boxes are at right angles with the horizontal line. I think you can understand that; I will say it again. Just as the line drawn from the point of station to the point of sight, is at right angles with the horizontal line—so, also, are the horizontal lines of the side of the box. You can see it at once if I mark the position of the lines upon the ground, so,—



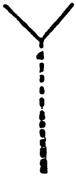
The line from the point of station to the point of sight, is, you see, in the middle, and the side lines of the two boxes run exactly in the same direction.

Ion. Or we may say, in a parallel direction, papa, may we not?

W. I will say it once more. The line from the point of station to the point of sight, and the lines of the sides of the boxes, are in a parallel direction.

P. And now you have the reason why they incline to the point of sight, instead of a vanishing point. All lines in a picture which are parallel with the imaginary line from the point of station to the point of sight, must incline to the point of sight.

Here you have the position of the square and of the imaginary line in the first drawing.



Why do both sides of the square incline to vanishing points?

Ion. I can tell at once, papa.

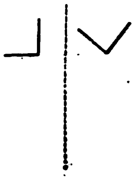
It is because they are not parallel with the *imaginary* line.

P. You may now make the rule respecting the point of sight. We will repeat it together.

The part of the horizontal line which is exactly opposite to the point of station, is called THE POINT OF SIGHT.

When drawing a figure in perspective, we must make an imaginary line between these two points—then, all horizontal lines which may be parallel with that line must incline to the point of sight.

Suppose that I make you another drawing; and, instead of placing *both* boxes parallel to the imaginary line, I will alter the position of one; so—

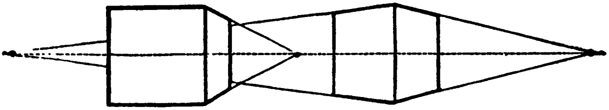


What do you say of the position of the right-hand box?

Ion. That it is *not* in a direction parallel with the imaginary line.

W. So, the lines of the sides will not incline to the point of sight, but you will have to make a vanishing point for them.

P. That is correct; here is the drawing, with the position of the square altered—



L. Yes. You have made two vanishing points, papa. Can you make *more* than two vanishing points in a picture?

P. Yes; in some large pictures there may be twenty—because, when you draw an object in perspective, in twenty different positions—each position, unless it is parallel with *the imaginary line*, will require a new vanishing point.

Lesson 8. THE POINT OF STATION, *and* THE POINT OF SIGHT.

1. *The point at which we stand to look at any object, is called the* POINT OF STATION.

2 *The point on the horizontal line which is opposite to the point of station, is called* THE POINT OF SIGHT.

3. *When drawing an object in perspective, we must make an imaginary line between these two points, then all the horizontal lines in the object which are in a direction parallel to that line, must incline to the point of sight.*

4. *When the lines of an object in perspective are not parallel to this imaginary line, they must incline to a vanishing point.*

PLEASANT PAGES

FOR THE

19th Week. MONDAY. Moral Lesson.

HONESTY.

BENJAMIN'S BOOKSTALL.

L. Please, papa, will you tell us another tale about a boy and his sister?

Ion. And, may we hear about some boy as old as Willie—not older?

P. Ah, I have just thought of a boy, only, I am sorry to say, he was 14 years old when I knew him—but, his *sister* was 10 years old—so she was not older than Willie.

W. Oh, then, that will do just as well, papa. Come, Ion, and sit down. You shall sit next to the fire.

P. I forget now how I first knew this boy. He used to work at the waggon-office, at the end of the next street. Now, I remember that he used to bring my parcels from the stationer's in town; for I always noticed how clean he was;—so were the parcels, too. He never had dirty finger-nails, and his hands were very clean for a boy at a waggon-office. Ah, it was a long while ago,—perhaps thirty years.

L. What was his name, papa?

P. Benjamin—something—but, really, I forget. Well, we will call him "Benjamin." So listen—

BENJAMIN'S father was a bookbinder. He was a bad man, for he ran away to some far country, and left his wife to take care of Benjamin and his sister when they were both very young. Five years afterwards, their mother died. They learned something from her on her last day,—for, as each stood by her bedside, holding her hand, looking at her thin face, her bright eyes, and the long, grey hair, hanging loosely on the pillow, she pressed their hands for the last time, and cried to them—"Remember, again, that you're not alone—so, all your lives be HONEST AND TRUE, to please your Father in heaven." And, soon after, they both found they were holding a hand which was cold; and both pressed their warm cheeks against the damp face of their dead mother.

For a few moments they forgot what she had said, and felt that they were alone—but, they soon remembered again, and that night when they prayed to God their Father, they asked Him to help them to keep their mother's last words.

I think they had an uncle—a farmer—somewhere in the country, but no one knew where—so they could not go to live with him, and they remained in the great city of London to shift for themselves.

They felt that they were both too weak and young to begin housekeeping alone, and after they had found a little room to live in, and had sat down for the first time, they trembled to think that they were *very* poor, for they had only 17s. left.

But, when Benjamin found work at the waggon-office, and Jane could sometimes earn one or two shillings, they began to feel courage—for they thought, "*We can support our own selves*—we do not owe any money, so we shall be able to be honest, as our dear mother wished—and shall please Our Father, who sees us now. Ah, we are not alone!"—"Perhaps," said Jane, "our mother, too, can see us."

W. Ah, papa! Where *does* God keep all the spirits? Does He ever let them come down to look at us?

P. Of course, we cannot tell, Willie,—but the thought "*perhaps*," was a great joy to Jane. Listen, and hear how there came a trouble, once.

Benjamin came home to tea at half-past six, and was seldom late,—but, after he had been at the office nearly two years, there came an evening when Jane waited till half-past seven o'clock, and then looked out of the window the fourth time to see if he was coming up the street. She went back to her chair, sat down to her work, and again put it down to listen. When she was tired of listening, she made a noise in her tea-cup with her spoon, and thought again—"It's getting very late." She was silent, and listened again—but no one made a sound, except an old fly, who was obstinate about going to bed, and would fly about making a mournful buzz; and the clock,—yes, the clock would keep on "going"—on purpose to make Benjamin late, and the pendulum—it would keep on saying—"it's—get-ting—*ver*-y—late—*ver*-y—late—*ver*-y—late"—and those were all the sounds Jane heard.

But at last, when the fly gave in, and went to sleep—and, when Jane could hardly see her own hand, and the window panes were very dark, and the lamp-lighter lit the lamps, she put on her bonnet, and said she would go and see.

There were no tidings to be heard at the waggon-office—"he had left there this hour and more"—there were no tidings to be heard in the streets—so she hastened back to see if he had come home. Then, as she reached the door, she heard the bad news from one of the up-stairs lodgers.—"Ah, Jane, your brother has not come—but there has been some one from the hospital, and they say he has been run over and is hurt."

W. Ah, papa!—Poor fellow, what would he do?

Ion. Why, I'll tell you. He ought to have had some bills printed, for people to make a subscription for him!

P. Yes. He was one of those whom people would gladly help if they could find them out. It would trouble you very much if you were to hear about his poor sister's agony—of the long time he was getting well—and how, at last, his leg was taken off, and he came home with a wooden leg.

"Now! Benjamin," said Jane, as he sat down and looked all over the room again. "How can we be honest? Who is to pay the rent? How can you get a living with a wooden leg?"

"I'll try," said Benjamin. "Will you go on with your needlework—and, suppose I make things and sell them?"

"Yes, but I am afraid we shall not earn much.—What things *can* you make, Benjamin?"

"Oh, wait a little, and do not be afraid—we shall find out by next week. Don't you remember the words our dear mother so often read from the Testament?—'*Are not two sparrows sold for a* *farthing, and one of them shall not fall to the ground without your Father? Fear not therefore, ye are of more value than many sparrows.'* She used to talk to us about God providing for all, and called it *His Providence.*"

"And," said Jane—"there was another verse about food and clothing."

"Yes, I remember it. '*Your heavenly Father knoweth that ye have need of these things.*'—So—fear not, Jane! If God meant me to have a wooden leg, it must be quite right—Wait till next week!"

(Continued at page 305.*)*

FATHER IS COMING.

The clock is on the stroke of six,
  The father's work is done;
Sweep up the hearth and mend the fire,
  And put the kettle on;
The night-wind now is blowing cold,
'Tis dreary crossing o'er the wold.

He's crossing o'er the wold apace,
  He's stronger than the storm;
He does not feel the cold, not he,
  His heart it is so warm;
For father's heart is stout and true
As ever human bosom knew.

He makes all toil, all hardship light;
  Would all men were the same,
So ready to be pleased, so kind,
  So very slow to blame!
Folks need not be unkind, austere;
For love hath readier will than fear!

And we'll do all that father likes,
  His wishes are so few;
Would they were more! that every hour
  Some wish of his I knew!
I'm sure it makes a happy day
When I can please him any way!

I know he's coming by this sign,
  That baby's almost wild;
See how he laughs, and crows, and stares—
  Heaven bless the merry child!
His father's self in face and limb,
And father's heart is strong in him.

Hark! hark! I hear his footsteps now—
  He's through the garden gate;
Run, little Bess, and ope the door,
  And do not let him wait!
Shout, baby, shout, and clap thy hands,
For father on the threshold stands!

MARY HOWITT.

VERTEBRATED ANIMALS.

DIVISION INTO CLASSES.

M. Let us see how far we have gone in our Natural History.

I said that the *Kingdom of Nature* is divided into three kingdoms —viz., the Animal, the Vegetable, and the Mineral Kingdoms.

L. We are learning about the Animal Kingdom—

M. And it is a very long road through this Animal Kingdom. It will take us many years to reach the end of it. Indeed, you might spend all your life, and twenty more lives if you could have them, in learning from this kingdom alone, without observing the others. We are now going to enter the Vertebrated Sub-kingdom, and I can see before us many pleasant paths which you will like to travel in. In God's works, as well as in God's word, there are many "ways of pleasantness." Come, then, let us make haste, and proceed!

The Animal Kingdom is arranged into

L. Four sub-kingdoms, thus—

The Vertebrated,
The Articulated,
The Molluscous, and
The Radiated Animals.

W. We began by describing a *vertebrated animal* and its framework. Please let me describe one to you. A Vertebrated Animal, such as THE DOG, has (1.) an internal framework; (2.) four limbs; (3.) red blood. His framework consists of—

M. No, Willie, it would be too tedious for me to stop and hear all that over again—I dare say that you have all remembered the lesson. Let us now see whether the vertebrated animals require arranging.

I will arrange some of them for you in a nice orderly class. To make a *good* class they must be all alike. As I write down their names, I will repeat them aloud, very slowly, and as I repeat them, will you imagine that you see them standing before you in a long row? Tell me if you think they are alike.

Lion,
Sprat,
Cameleopard
Mole,
Whale,
Mouse,
Boa Constrictor,
Sole,
Eagle,
Frog,
White Bear,
Hen,
Horse,
Bat,
Ass,
Nightingale,
Elephant,
Hedgehog,
Hippopotamus,
Robin,
Turtle,
Humming-bird,
Cow,
Dove,
Salmon,
Cat,
Ostrich,
Crocodile,
Boy,
Squirrel,
Parrot,
Pig.

W. Oh, mamma! Is that what you call a *class?* What a disorderly company. How different they seem! They are as bad as Bonaparte's army, which you told us about in the first lesson.

M. How are we to go to work if we want to arrange them in classes?

W. I think I know, mamma— we must do as Bonaparte did. Find out something in which a number of the animals are alike, and then put all those animals in a regiment by themselves—just as he did with the red coats, and blue coats, and black coats.

Ion. I will tell you something, mamma. A number of them are alike because they can *fly.* The robin, the nightingale, the humming-bird, and the bat.

L. And others can *swim.* The sprat, the sole, and the whale.

W. And others *walk.* Boys do—and cows, and pigs.

Ion. Ah, and others cannot do any of these things very well. They *crawl about,* or *hop* or *jump.* Frogs do—and the toad, and lizard. The boa constrictor—and the turtle.

L. You forget, Ion. They can *swim*—

Ion. So they can. But we may say that the vertebrated animals have these different ways of moving, because they live in different places. The first company live in the air; the next live in the water; the next on the land; and the others belong to the land and water too.

M. Now, think again—seeing that they are intended to live in different places and circumstances, and must have different ways of moving about, what else must they have?

L. They must have different sorts of limbs to move with, of course.

M. That is true. Let us notice an animal that walks on the land. —Here is a picture of A Cow— What limbs has she for walking with?

W. She has four—r—r—

L. Say four *wings,* Willie—

W. No—four *legs.*

M. And if you place your hand, Willie, on the body of a cow, you will notice that it feels warm;—but if you take up a *swimming* animal—a fish—

W. Ah,—its body will feel cold. I have noticed that—and the cold frogs, and toads, and other *creeping* animals. Uncle Thomas's tortoise feels cold.

M. This leads us to a very important point. The fishes, and these other animals which can live in the water, have *cold blood*—but the cow, and those animals which live on the land, have *warm blood.* Let us notice something else. What is there covering all parts of the cow's body, and keeping her warm?

W. She is covered with hair, mamma. I have hair, but only on my head—at least, there is a little hair growing all over my body, but it is not so thick as the cow's.

Ion. No, Willie—for you can put clothes on, and make yourself as warm as you please. Fishes have no hair, nor frogs—I suppose they would not like to be warm—perhaps they dislike heat as much as we dislike cold.

W. So I think that if the frogs wanted to make themselves comfortable by the fire—they would all sit round a piece of ice—

M. But let us proceed. All these animals which live on the land, are much attached to their young—and they are provided with a substance for feeding them, called—

W. *Milk,* mamma. Yes, I remember how you told us in the lesson on milk, that the cow belongs to a class of animals which suckle their young, and are called *Mammals.*

M. And that is the class of vertebrated animals we are talking about. We have noticed four points in the cow:—Her limbs—blood—covering—and her young. Listen while I make her "description" for you.

THE Cow has

Limbs, which are legs for walking on the land.

Blood, which is warm.

A *Covering* of hair, and
Its *Young* are fed from the milk in its body.

It is therefore called a MAMMAL.

Now, can you make me a class of Mammals, from the list we made at the beginning of the lesson?

L. Yes, I think so, mamma. We are to look over the list, think of each animal slowly, and see which of them are like the cow in these four points.

Ion. Ah, we will mark them with a pencil.

A CLASS OF MAMMALS.

First, THE COW is a Mammal, and so are

* THE LION,
The Cameleopard,
The Mole,
The Mouse,
The White Bear,
The Horse,
The Ass,
The Elephant,
The Hedgehog,
The Hippopotamus,
The Cat,
The Boy,
The Squirrel,
The Pig.

M. That will do. You have only left out *two*.

L. Which are those, mamma?

M. Oh, never mind now. I dare say I shall find them in some of the other classes, when you make them. Let us proceed again.

We will now notice a *flying animal.* Here is Lucy's canary bird. Come out of your cage, sir, and hop on my finger. You are now to think of its *limbs*, *blood*, *covering*, and *young*. See if in these points it is like the cow.

See, Willie, if it has four legs—

W. I can only see two at present, mamma. Two of its limbs are legs—and two are wings.

L. Its *blood*, mamma, is warm, like the cows,—for I have often felt that its body is warm, when I have held it in my hands; and, you said that it was the warmth of her body which hatched the eggs.

M. But its blood differs from the cow's—for the blood of all flying animals is *warmer* than that of the Mammals. You shall know why some day.

Ion. We must notice its *covering* next. That is not like the cow's, for it is covered with feathers.

M. What do you say of its young—has it any milk to feed them with?

Ion. I should suppose not, mamma—because, how could the little canaries suck with their beaks? But I know one curious thing about her young—*they are born in eggs*—and when they are born the old bird feeds them with worms, or caterpillars, or seeds—or pieces of grain chopped up.

L. Yes, and their father goes and fetches it for them—

Ion. And so he ought. Now, mamma, shall I make "the description?"

M. Yes.

Ion. THE CANARY has
limbs, one pair of which are legs, and the other pair wings;
blood, which is even warmer than that of Mammals;
a covering of feathers; and
its young are born in an egg.

Such an animal is called A BIRD.

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* The readers of "Pleasant Pages" should not read these names, but go over the list themselves, form their own class, and then compare it with Ion's.

W. Now we will make the class. Bring your pencil, Ion.

A CLASS OF BIRDS.

The Canary
is a bird, and so are
The Eagle,
The Hen,
The Bat,
The Nightingale,
The Robin,
The Humming-bird,
The Dove,
The Ostrich,
The Parrot.

M. I *said* that I should find the two missing Mammals in some of the classes. I can see the name of one. Is the *bat* covered with feathers?

W. No, mamma. But it can fly—it has wings.

M. I thought you would say that—so I have brought a stuffed specimen with me. Let us see what sort of a bird it would make. Look first at its beak.

L. I see that it has none, mamma. It has teeth, and very sharp pointed ones.

M. Secondly — look at its feathers.

Ion. But, mamma, it is covered with hair—and the wings are only made of a sort of skin.

M. And I must tell you, too, that it feeds its young with milk. It cannot lay eggs.

W. Then mamma, it is a *Mammal*—a flying Mammal.

M. Yes.

Ion. Lend me your pen-knife, please. I'll scratch him out of the list.

M. We will stop now. Let us remember that the animals you have marked on the list are all warm-blooded animals. Two of the classes of vertebrated animals, the MAMMALS and THE BIRDS, have *warm blood*—while the other classes have—

W. *Cold blood.*

PRACTICAL BENEVOLENCE.

HE is the wisest, and the happiest man,
Who, in his sphere, does all the good he can,
And, with a ready hand, and generous heart,
Performs to all the benefactor's part;
He clothes the naked, he the hungry feeds,
Consoles the sorrowing, for the guilty pleads;
His are the joys which pall not on the sense,
And his the high reward of pure *benevolence.*

H. G. ADAMS.

READER! whosoe'er thou art,
What thy God has given, impart;
Hide it not within the ground,
Send the cup of blessing round.

Hast thou power?—the weak defend;
Light?—give light—thy knowledge lend;
Rich?—remember Him who gave;
Free?—be brother to the slave.

Called a blessing to inherit,
Bless, and richer blessings merit;
Give, and more shall yet be given;
Love, and *serve,* and look for *Heaven.*

JOSIAH CONDER.

THE NORMAN KINGS.

WILLIAM THE CONQUEROR.

P. Here begins the history of the Norman period.

WILLIAM conquered HAROLD in the Battle of Hastings, October 14th, 1066.

But he had only gained *one* battle, and most of the English were determined not to submit. Quickly, they sent for EDGAR ATHELING, the grandson of Edmund Ironside, and sent for an Archbishop to crown him. Quickly, WILLIAM left the battle-field, and made haste to reach London. He stopped at Dover, to take possession of the castle there, and then marched on to the capital. There, although a part of his army was met by the Saxons of Southwark, and was driven back, he was received by the inhabitants of London, who thought that he would make a better king than Edgar. So, on the 25th of December (Christmas day), he was crowned king, at Westminster Abbey, by the Archbishop of York.

The Normans who were present in the abbey were asked in French, and the Saxons who were present were asked in English:—"Will you have the Duke William to be your king?" and they cried "Yes," with very loud shouts and acclamations. William was much pleased with the Londoners, and to thank them he gave them *a Charter*—that is, a promise written on a piece of paper, to say that they should have great privileges. On part of it is written:—

"I declare you to be all law-worthy, as you were in the days of King Edward; and I grant that every child shall be his father's heir, after his father's days; and I will not suffer any person to do you wrong. God keep you."

But, I am sorry to say that he forgot his promise, as you shall hear.

Being now king of the southern districts, he proceeded to conquer the midland parts and the north.

Many hard fights and struggles did the Saxons make—but, William persevered. First subduing the people of Somerset, Devon, and Gloucester, he proceeded upwards, and the cities of Oxford, Worcester, Leicester, Lincoln, and many others fell into his hands. Crowds of fresh Normans arrived to help him. Wherever William and his followers went, they punished the English without mercy—seizing their riches, and reducing them to a state of meanness and poverty.

The Saxons were treated so badly, that, in the next year, when William left England, on a visit to Normandy, to see his subjects there—being driven to despair by their sufferings—they made a conspiracy. They determined that, on the coming Ash Wednesday, when the Normans would be at church, they would then murder them all, just as Ethelred had murdered all the Danes.

William, however, heard of this bad scheme, and returned in time to prevent it. And, from this time, he lost all trust in the Saxons—he began to hate them, and to treat them as his worst enemies. He was a man of a fierce and determined mind, so he began the wars again with still greater cruelty. The next year, and the next he spent in the middle and north of

England, destroying the people and cities.

The Saxons could not resist openly in battle—but in the night they assassinated the Normans, and hung up their bodies in the woods and public roads. William, in his turn, became more fierce than ever, and when he found great resistance from the people in Yorkshire, Durham, and Northumberland, he ordered that the three counties should be "laid waste." The Normans executed this order in the manner of cruel savages. They burned every house and farm, slaughtered the sheep, cattle, women, and men, and drove others into the woods, to die of hunger and cold. This large tract of fertile country was thus made bare, and became a vast desolate wilderness.

EDGAR ATHELING, and the Saxon chiefs, Edwin and Morkar, were now obliged to submit to William—and now no one dared to resist him, from the river Tweed to the Land's End.

During these three years, the Normans who had come over with William had been receiving the spoils as their reward. William was obliged to give them all he had promised.

After keeping for himself all the treasures of King Harold, with the golden plunder from the abbeys, the churches, and the shops,—he gave to each man so much, according to the bargain he had made with him when they started from Normandy. Every priest, baron, knight, and soldier, claimed his share. Some had estates and castles—some were made governors of towns and villages—some were paid in money—and some had fine Saxon ladies to marry, whose poor husbands or fathers they had killed at Hastings.

All these things, the houses, lands, and riches, were taken without mercy from the Saxons. "The towns suffered in a manner different from the country. At Pevensey, in Sussex—the town where the Normans landed—the soldiers shared the *houses* amongst themselves, and drove out the conquered people. Sometimes they took the people too, and portioned them out like so many slaves." The people and houses of Dover, a place which was half destroyed by fire, were treated in this way.

The Norman, Raoul de Courpespine received three houses and a poor woman's field.

Geoffry de Mandeville seized on *forty* houses which were surrounded by fields and gardens.

One called Engelry seized the houses and lands of fourteen Saxon Thanes.

One rich Saxon placed himself *under the protection* of a Norman called Gaultier.

Another Englishman became a serf or slave, to dig the soil in his own field.

Scarcely a Saxon was allowed to keep his rank and wealth. The meanest common soldier in William's army was placed above the families of the powerful Saxon Thanes. "The man who had crossed the sea with a quilted cassock and wooden bow of a foot-soldier, now rode through the land, mounted on a war-horse—whilst the men who drove the cattle, the common herdsmen of Normandy, and the weavers of Flanders, suddenly became persons of consequence."

All over the conquered English land, the sixty thousand followers of William settled down like a band of nobles in the midst of a nation of slaves.

Thus, by the end of the year 1670, was made a most miserable change, and ENGLAND *was conquered.*

W. How many more times is England to be conquered?

P. Ah! poor old England—how many times she *had* been conquered!

Poor old England!—conquered again!—Not only the people, but the soil changed hands. If the ancient soil—the broad fields, hills, and rocks—which had been there from the beginning, could have spoken, they would have made you a mournful ditty. They would have given you some pages of history which have never yet been written. They would have told you,—We wonder whom we shall belong to next—we fields and plains have been owned by many masters.

First we belonged to—

W. The ANIMALS, papa,—before the men were made.

P. Ah, to be sure. Then we belonged to—

L. The ANCIENT BRITONS.

P. Then to—

L. The SAXONS.

P. Then we belonged to—

L. The DANES.

P. Then to—

L. The SAXONS again.

P. And now it seems we are to be Norman land.

W. Poor old country!

P. Ah, those hills and plains had seen strange scenes. Especially the tops of the mountains, which looked far over the land. I wonder what they *would* have said, if they could.

They would perhaps have told you, as I did, how beautiful the island was once—and would have grumbled not a little at the men who had made such disturbance and mischief. The sheep, they would tell you, and the cattle, eat the grass we give them, and lie down quietly. The birds make nature more beautiful—but, as for these men — Normans, Saxons, and Danes—they destroy the country with fire. They build houses on our soil—then burn them, and strew the ashes on our fields. We are weary of their wars. When will they be quiet, and dwell in peace like sons of the soil?

W. Instead of cutting it up with railroads!

P. But there were no railroads then. Let us return to the history It was nearly 800 years ago—A. D. 1070. Now go back to that time, and imagine yourself sitting on one of those mountain-tops, looking down at the people beneath—what a picture you would have seen!

L. But, papa, just look up at the clock——

P. Dear me! there's a very sad picture! the short hand is at *nine.* I must make haste to business.

W. Thank you, dear papa, good bye!

It's a good thing, Lucy, that papa *did not* go back 800 years—he would have had to make very great haste.

DELAY NOT.

WHATEVER work we have to do
Should never be delayed;
Because the same excuses too
To-morrow will be made.

Delay is dangerous—and it turns
To trouble in the end;
But chiefly in our souls' concerns
It must to ruin tend.

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY *(Continued).*

Ion. Please, dear papa, you have made a mistake; at least, we suppose that you did, because, in the little drawing at the end of the last lesson, you have called the second set of rocks the *Secondary* Rocks.

P. It should have been *Transition.* I cannot tell, Willie, how the mistake happened. There are a few mistakes in the other parts, which I must leave you to correct yourselves. You will be sure to have noticed them, if you have read the lessons carefully. The rocks I spoke of in the last lesson were—

Ion. The Primary Rocks, and the Transition Rocks.

P. To-day we will begin where we left off last time, at the Transition Rocks. I said that the time when these rocks were formed, was the beginning of a great period called *the fifth day.* There was broad daylight then, and the bright sun shone on a surface of water and land. But how different was its appearance then and now! Look at your Map of the World *now*, and you will mark five great pieces of land — Europe, Asia, Africa, America, and Australia. But *then*, the greater part of Europe, Asia, and the northern lands were covered with water, and very large islands were beginning to rise.

L. What, move up, papa?

Ion. Islands are not alive, papa. I have heard of the sun rising, but—

P. Ah, this is quite a different thing. This rising is caused by the action of the heat. When you have had baked custard for dinner, perhaps you may have sometimes noticed a few little brown swellings on the surface.

W. I have, papa; they are like *blisters.* I have broken them with my spoon.

P. Well, the matter or substance of this globe was then just as easily acted upon by the heat as the custard. (Indeed it is so now.) We shall see how the heat under the earth has caused great swellings on its surface. There are some smooth gentle risings on the surface. These are in the parts where the action of the heat was not very strong, or where perhaps the strata of aqueous rocks were very tough, so that they would *bend*, and not burst. But, in other parts, the strata of rocks have not been strong enough to resist the fire. Then, the melted matter beneath has *burst through*, boiling up to a great height. This matter, as it cooled, formed very great swellings, which in time became quite cold, and were covered with earth. Do you know what these "very great swellings" are called, now?

Ion. Mountains, I suppose.

W. So do I. But when these great mountains were in the sea, I suppose that if they were tall enough to get their heads above water, they formed islands.

P. That is right, Willie. The islands in the sea are only the tops of mountains and rocks under water. But let us proceed with the history of the fifth day; we have a long, long period before us.

The Primary and Transition rocks had been formed. All Europe and the northern half of the globe, with the exception of a few very large islands, was, I said, covered with water, and the sun shone on the quiet earth and sea.

Still quiet! not a sound, but the "rumbling" sometimes caused by the fire beneath, or the gentle ripples or angry roar of the water above. But sometimes there was no wind about, and the sea was lazy; then it was very quiet.

Yet I told you there was *life.* The vegetables—the branched, the soft-bodied, the jointed, and even back-boned animals—the fishes—were there; they were all living and growing, but none of them uttered a sound. These "moving creatures, which had life," moved silently in the sea. As yet there were no animals *on the land.*

And there was good reason for this too—no animals *could* have lived there. You have heard of the gas *carbon.* Your mamma told you, Ion, how the air carried away the carbon from the blood in your lungs, but imagine the air to be full of carbon!

Ion. I suppose that when we breathed, we should have too much carbon in our lungs, and be suffocated.

P. You certainly would, Ion. And at the beginning of the fifth day, the air was full of carbon. That is why there were no land animals or men. The place was not ready for them.

L. Then that carbon would have to be cleared away first, and the air must be made pure. I wonder what God did with the carbon. Where did he put it?

P. It must have been put away somewhere, for none of it was lost. God never loses anything that He has made, nor wastes it, not even the most minute particle of carbon. The fact is, it was intended to be used up, and *we* are using it now. Just poke the fire, Ion. There it is! the old carbon gas that was in the air ten thousands of years ago—there it burns and blazes with a merry flame.

L. What do you mean, papa? Are you talking about the coals? Ah, the French word for coal is *charbon.* Is coal carbon?

W. And you said, papa, that the carbon was a gas. How can it be in coal?

P. Ah, there is a mystery! Have patience, and listen. First, we will inquire, how was the carbon in the air *cleared away?*

There were millions of beautiful insects at work in the sea, just at this time; they were busy using up the lime they found in the water, and making it into rocks, which we call coral rocks. There were also millions of shell-fish, whose shells were made of lime. As ages passed on, and these shell-fish were continually dying, their shells and the works of the coral insect being pressed down by the water, made a thick stratum of rock, which was nearly all lime.

W. What is that stratum called, papa?

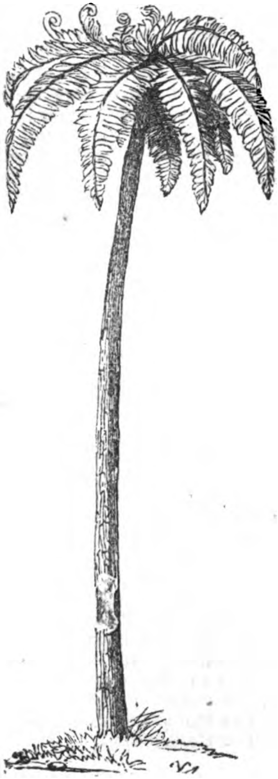
P. It is called *Limestone* Rock. Do you remember my lesson on lime—whether I said anything to you about carbonic acid gas?

Ion. Yes, papa. You said that the lime has an affinity for it—absorbs it, forming carbonates of lime.

P. That is true. Then think how much carbon this great stratum of limestone must have absorbed! For it was a very thick stratum. And again, it was spread over a very large surface. It was even found on the high mountains, so that it is called *Mountain Limestone.*

W. Then that was one way in which the carbon was cleared away—by making limestone to absorb it—was there any other way?

P. Yes. You must know that plants *feed on carbon.* The climate all over the earth was very warm and moist, so that although animals could not breathe the air, its state was exactly suited for the plants. They liked the warmth, the moisture, and the carbon; they absorbed it plentifully, and they grew famously. Look at this plant, and see to what a size they grew.



This is called a Fern Plant. If we could have been in the world to see the islands and broad lands formed by the layer of mountain limestone, we should have seen these fine plants growing on the surface in immense jungles. The lands were also clothed with thick forests of other mighty trees, perhaps even larger than the great palm and sago trees which grow now in hot countries. All these plants and trees grow for many years by feeding on the carbon which they were "clearing away" from the atmosphere.

W. How very plump and woody they must have grown!

P. Yes, for they had the land all to themselves. There was still a solemn silence on the earth—intense silence. No animals lived in those fine trees. No bird sang to them. No insect hummed. No sound broke the dreary solitude of the deep, dark, shady forests.

Ion. But I suppose that some animals were made as soon as the carbon was absorbed from the air?

P. No. These fern plants and other trees had no *flowers* on them; where there are no flowers on a plant, there will be no *fruits* —and when there are no fruits, then the Animals—

L. They would have died if they had been made. They could not live on the leaves, I suppose. Then what would become of these great forests, after all? They were of no use, not even to chop up for fire-wood.

P. Yes, indeed. Let me tell you again. God uses up everything, nothing is wasted. These old trees!—He has kept them ever since for men to "chop up for fire-wood." Yes! He put them away for us ten thousands of years before we were born. He knew that on "the sixth day," He should make *man*. And he did not forget to think even of such little people as Lucy, Willie, Ion, and Ada, who, as well as the rest of mankind, like to sit by a nice fire. So—He *made it into Coal* for us. Should we not love Him now very much, whenever we look at the coals? What a kind Father! Think again of his making coal for us before we were made.

L. And making fresh air for us at the same time!—But do, papa, tell us how it was done.

P. Yes, so I will. But it is a terrible tale. Can you think of this Island of Britain?

W. Yes. We are thinking about it—*I* am.

P. Well, then,—on this Island of Britain the stately ferns and forest trees, in their silent grandeur, grew up fresh and green. When, lo! God sent the waters upon them.

The fire beneath began to move and shake the earth again—to rock it to and fro. The trembling earth quaked, and the earthquake shook the *sea*, as well as the land.

Think, for a moment, that you can see it. Now, God moves the sea. Listen! Ah, listen, and look, as the rising and foaming sea roars, and the mad waves dash on. The rivers, too—Look at them! As the mountains shake, they pour down in torrents, flooding the land—rising even to the tops of the trees. Down they rush to flee away from the troubled hills, tearing down the single trees, and rocks, and earth. Then, as God moves the fire beneath once more, the forest again rocks to and fro; and as the land seems to sink—the angry sea rising to a great height, sweeps onwards the sands from the shore,—and, ah! the beautiful forest trees!—They are lost beneath the waves, and pressed down by an enormous weight of sand, grit, stones, earth, and mud.

Yes.—Turn away your eyes! —The forest is gone.—It is "put away," and all is silent as before. The island is sunk; the trees are buried alive. Over all are the waves, which are quiet again; and, like waves which are half-ashamed of themselves, they just splash backwards and forwards in an idle, indifferent mood.

The forests in time were changed into coal—for they were pressed down and jammed together by the weight above. This pressure caused heat—so that the pressure from above and the heat from beneath caused them to burn—but not flame.

W. I suppose that they could not make flames; there was no room for them.

P. Or rather say, there was no air.—The trees, therefore, did not lose their carbon, but changed into charcoal. This charcoal became gradually harder, until it formed the substance we call *Coal.*

And now—what changes there are! In the very place where, if a man *could* have stood thousands of years ago, he would have said, "Glorious forest!" he now says, "Durham Coal field."

W. And—"The present cash price, 23s. per ton."

P. This is a very long lesson. I hope that the Printer will print it all. Let us remember what we have learned. We have begun to talk of the *Secondary Rocks*—and have heard of

THE MOUNTAIN LIMESTONE, and
THE COAL FIELDS.

PERSPECTIVE.

P. Let us recapitulate a little. What do you call a figure with three sides?

L. A triangle.

P. Tell me the four-sided figures you have heard of.

L. The rhomb—the rectangle—the parallelogram—and the trapezium.

P. Let me hear you describe a square?

What *is* a *rhomb?*

What is a *rectangle?*

What is a *parallelogram?*

What is a *trapezium?**

What do you call the line drawn through a picture to show which objects are on a level with the eye?

L. The horizontal line.

P. What do you call the point in the horizontal line opposite to the point of station?

Ion. The point of sight.

P. What do you call the point opposite to the point of sight, the place where you stand to look at the picture?

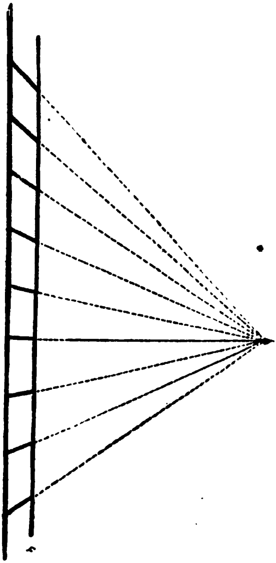
Ion. The point of station.

P. What is the use of the point of sight?

Ion. When we make a side-view of any objects, and draw the horizontal lines of those objects, they must all slant. And they must slant in such a way that *they would meet at that point* if they were long enough.

P. In what direction would they slant?

W. I can tell you, papa. In different directions. The lines above the point of sight must incline *down* to it,—and those below the point of sight must incline upwards—just as you may see in this side view of a ladder which Ion and I have drawn.



If the ladder were exactly in front of us, all the rails would be drawn with horizontal lines,—and, now you see, papa, that some of the lines slant upwards and some down, as I told you.

P. But one of the lines is quite horizontal.

W. Yes. That is because it is exactly on a level with the eye,—so it falls on the horizontal line, and it must be horizontal.

P. I can understand. If you please, here is one more question. I said that when you are drawing objects in perspective, the lines of some of them must incline to the point of sight; while in others the lines must incline to a vanishing point. How can you tell *which* lines must incline to the point of sight?

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* An accurate definition of each figure should be given by the reader.

Ion. I remember, papa. In order to know, we must draw an imaginary line from the point of station to the point of sight—then when we draw the sides of those objects which are *parallel* to this line, their horizontal lines must incline to the point of sight.

P. But suppose the objects are *not* parallel to this imaginary line?

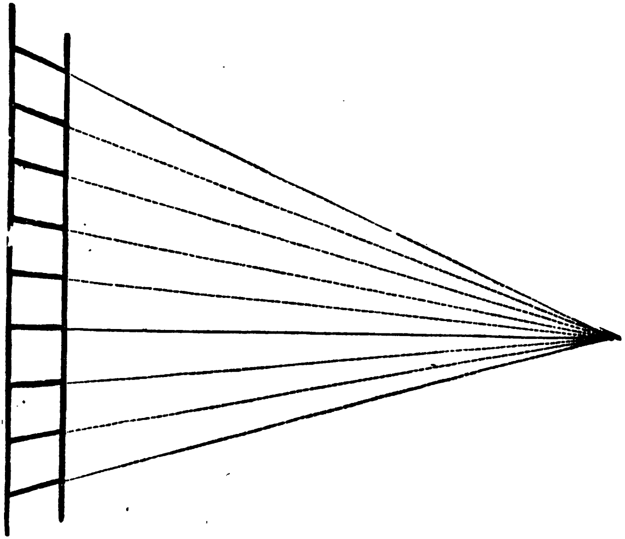
Ion. Then they must incline to a vanishing point.

P. Suppose, then, that I get this ladder of yours, and only turn it round a little way. You see that I have turned it round a very little. Now, if I were to make a line with a piece of string, from your eye to the point of sight opposite—would the ladder be parallel with that line?

Ion. No, papa.

P. Then, of course, I must make the lines of the rails incline to—

W., *Ion*, and *L.* A vanishing point.



P. Then see me do it. Now, you may all sit down and copy both these ladders in your drawing-books. In one ladder the lines are to be drawn to the POINT OF SIGHT.

In the other, they are to be drawn to a VANISHING POINT.

HONESTY.

BENJAMIN'S BOOKSTALL.

At the window where Jane had sat waiting for Benjamin,—there sat Benjamin waiting for Jane. She had gone to market to buy something for dinner. It was the hour just after breakfast, when the day is still new and fresh, and cheerful and hopeful thoughts come. 'Twas the pleasant time when men bid each other a merry good morning—'twas the bustling time when folks have woke up with new life; 'twas the starting time of the day.

Benjamin sat, and looked out of the window. He watched the merry school-boys, who, cheered with fresh spirits from home, were chattering aloud, and swinging their bags, and starting off briskly for school. Then he watched the men of the city, who were going to their tasks at much harder schools. But, they went off with "life,"—for from head to foot they had been renewed. Ah,—from head to foot! Since last night the marks of travel which had stained their feet had been all brushed away—they wore bright boots once more. Ah! since last night the marks of toil which had saddened their faces had been all cleared away—they wore bright looks once more. Ah! the care-worn looks which they brought from their contact with cunning men, had all been rubbed off *at Home*. Ah! their dark cloudy faces had been brightened again, by sunny smiles from fresh and more innocent souls.

The pure love flowing from children and wife, had led up their thoughts to the Giver of good.

The hours of rest, and joy, and peace, had prepared them to start again.

These blessed influences of SWEET HOME had cheered and renewed them all.

W. I wonder whether any of them had been reading "Pleasant Pages!"

P. No doubt they had—most of them. They had read the children their lesson at the morning meal. Each one had taught some pleasant thought to his child, and was thinking how well he had begun the day. It was pleasant to begin each day by doing good. Indeed, one of them, even in the street, was humming one of our hymns, which he had learned for himself—

"Home! sweet home! an *ample treasure*,
Home! with every blessing crown'd,
Home! perpetual source of pleasure,
Home! a noble strain resound."

I should think that the thought of this verse made his labour very sweet to him—and made him feel that, after all, it *is* a good thing to go to work.

But, alas for Benjamin! There came only doleful thoughts to him when he saw every one busy but himself. He had told Jane that before she came back he certainly would find out some plan to get a living—but, he thought and thought again, and no plan came.

Jane's question, "How are we to pay the rent?" came to him again, and made him feel sad—when suddenly in came Jane herself with a laughing face.

"Ah, Benjamin, you have not found out the new plan yet—I can tell by your sad looks. But I have found it! I have found it! See how God sends thoughts! It came to me in the middle of the street close by the baker's, where I met an old man carrying a bundle of books. Will you give me a penny for my thoughts?"

"Yes. If they are good ones."

"Then here's a good one. Keep a *bookstall!*"

"Give me my penny."

"Well," said James slowly, "that-is-a-good-thought."

"Of course. Here is a number of books we have—dusty ones. There's part of uncle's school books and library packed up in that chest."

There was not much more *said* about it; for, an hour afterwards, they were very busy with a sponge, duster, India-rubber, penknife, and paste; and the table, the floor, the chairs, all parts of the room were full of books—there was really no place to sit down upon.

And so on—the next day, and the next, while Jane, who was a good hand at drawing and printing, made some bills to stick on the covers.

ENFIELD'S SPEAKER. 9d.
P. VIRGILII MARONIS OPERA. 7d.
OVID *(good edition)*. 1s. 9d.
BAXTER'S SAINTS' REST. 1s.
CÆSAR DE BELLO GALLICO. 1s.
DODDRIDGE'S RISE AND PROGRESS. 1s.
COWPER'S POEMS (2 vols.) 3s. 6d.
GOOD SCHOOL ATLAS *(very cheap)*.
PSALMS AND HYMNS. 4d.

Some small books were put into a basket, with a label—ALL 2D. EACH.

Some old engravings and coloured prints were marked—FROM 1D. EACH.

Some pamphlets, tracts, and loose maps were marked—TO BE SOLD CHEAP.

An old stool, and part of a chair were found, and made of the same height.

A leaf of a kitchen table was placed upon them.

Then all was complete, and the very next morning, by half-past eight o'clock, Benjamin and Jane were seen placing these things at the corner of a street leading into Goswell Road.

I must not stop to tell you about Jane, who could not go away, but sat on a step very near to watch the gentlemen passing to the City. Nor can I tell you about the first customer, who actually carried off the Ovid, and paid one and ninepence for it.

It would take too long a time to tell you all—how, every day, Jane helped her poor wooden-legged brother to carry the books. Or about the large ticket she printed —"BOOKS BOUGHT, SOLD, OR EXCHANGED;" and another one —"PERIODICALS SUPPLIED TO ORDER;" or how Jane went to places a long way off, and bought books so cheaply that Benjamin soon made enough money to pay the rent, and buy them bread, meat, and clothes.

Ah, they loved to think about these things, and to feel that they *were honest*.

One evening, just as Benjamin was packing up, an elderly gentleman stood for a long time at his stall, looking at the books, and then at him, until Benjamin said to himself, "I wish he would go away if he doesn't want to buy anything, and not keep on staring at me."

But, no; at last he said, "Benjamin."

"Yes, sir, my name is Benjamin. How did you know that?"

"Is your name Benjamin Cooper?"

"Yes, sir."

"Ah, I thought so, my boy. You are exactly like your mother. I knew your poor mother twelve years before she died, and your little sister Jane. I should like to help you a little. I see that you sell periodicals."

"Yes, sir."

"Well, in my school—for I keep a large school at Hampstead—we use more than a pound's worth of periodicals every month. Suppose you supply me until next Christmas, that will be seven months."

"But, sir, I have hardly enough money to—"

"Oh, never mind that. I will pay you for all of them now. I know that you will take care of the money."

"Jane," said Benjamin, as she came to him that evening, "what do you think I have in my pocket?"

"I can't tell."

"Why, *seven bright sovereigns!* I'll show them to you when we get home; and a gentleman's card—'Mr. Gray, Hampstead.'" Then he told her what had happened.

They talked very much that evening about Mr. Gray and the sovereigns; indeed, they were looking at them, and making them spin on the table, when Jane said she had another good thought. "It is a great pity," she said, "to put away so much money in a drawer when it might be used. I know where to buy a parcel of books almost as cheap as waste paper, if I buy all of them, and they will only cost *four pounds;* then we should have three pounds left, and by the time we wanted the other four, we should have sold the books for *eight pounds!*" So Benjamin thought, too, that it was a good thing; and the next day the books were bought.

"Look," said Jane, as they reached home the next evening, "what a fine pile of clean books they are! — all new. I shall print another board, I think—"WHOLESALE STATIONER AND BOOKSELLER.""

"Yes!" said Benjamin, "they make an important pile—but,—but,—I wish they had been bought with our own money—because, suppose we should not sell them!" and Benjamin's heart sank within him.

"Ah!" said Jane, "I did not think about that—and they are nearly all alike—there are only four different sorts. Still, I don't think there is much risk."

"But," said Benjamin, "there is a little risk, so it does not seem right. I'm afraid that if our dear mother were here, she would say that it is not honest to run *any* risk with other people's money."

Benjamin had enough money to buy Mr. Gray his periodicals for the first, second, and third month; but, the new books did not sell very fast, and, on the fifth month, Jane had to part with some of the money they had saved.

It happened in the next month that Benjamin was ill, then they found their "savings" were going very fast — so, although Jane would sometimes go and keep the stall herself, and did sell a few more of the books, they were obliged to part with half of those which were left to a bookseller, for less than they had cost, and even to sell some for waste paper.

But when the end of the sixth month was coming on, Benjamin was still unwell—they had already been obliged to sell part of their goods, and saw that they had only five shillings, with which to buy Mr. Gray his books.

"It will be of no use to take him five shillings' worth," said Jane. "What shall we do?"

And every day they asked that question—sometimes they cried, until, at last, the day for buying the books came — and then they could only ask each other again—"What shall we do?" On that day and the next, they were full of bitter thoughts. On the day after, the postman brought them a letter from Mr. Gray—which said that he thought Benjamin must have made some mistake, as he had not yet received the books, and telling him to bring them in the course of the day.

Jane was now in great trouble, and declared she would go to Hampstead herself. She therefore bought as many books as she could for five shillings, and set off in the afternoon.

But in the evening she returned home crying—for she had gone almost as far as the door of the house, and then, being afraid, had come back again.

The next morning was a dreary time for Benjamin, who, after they had eaten breakfast, sat alone in the room, biting his nails. Jane had gone out again to keep the stall. He was still thinking the old question — "What shall we do?" when he heard a gentleman's voice on the stairs, which made his heart beat very much, and the next moment, in came Mr. Gray.

"Well, Benjamin, my boy, how do you do?" he said, putting forth his hand, which Benjamin took very slowly. "I suppose that you are becoming such a great man now, and are so full of business, that you have not had time to send our books. Where are they?"

"There are some of them, sir, on the chair."

"But why have you not bought them all? I gave you the money."

"If you please, sir —" he said, bursting into tears.

"Well!"

"I have spent it!"

Then Benjamin told him the whole history of the books. It happened, fortunately, that Mr. Gray was a kind-hearted man; and when he heard of Benjamin's illness, and of all their troubles, and when he saw that he was really sorry, he did not reproach him very much.

"I am afraid," he said, "that you did not think of your dear mother's words when you bought those books."

"No, sir, we only thought of them afterwards."

"And I should think that you forgot about God your Father—you should remember *His providence*, and ask Him to guide you in all things."

"Oh, sir, we have not thought about God for a long time—we have been afraid; and we were too busy when we bought the books, for we were getting very rich then."

"Then that is the reason why you have gone wrong—of course.

If you think much of money, and little about God, you certainly will soon forget to be honest. It is fortunate for you, Benjamin, that I knew your mother. A stranger might have sent a broker, who would have sold your furniture to make you pay him; but it was partly my fault in tempting you with too much money. Good bye. I will take these books with me, and will see you again."

That evening, Benjamin and Jane talked very much together. They both felt much ashamed, for it was the first time in their lives that they had not been able to be honest. Before they went to bed, they sat down, and wrote this lesson for themselves:—*It is not honest to run any risk with other people's money.*

W. Did Jane print it, papa?

P. I don't know; but after it was written, they did a very wise thing.

L. What was that?

P. They asked God, their Father, to help them, by His Holy Spirit, that they might think more of Him; and ever since then, by remembering God, they have not forgotten to be honest.

W. Is that all, papa? But I want to hear what became of Benjamin.

P. Why, I am glad to say that he worked hard, and in time paid Mr. Gray, who was afterwards very kind to him, and helped him to get a shop. You have often seen his shop—COOPER, BOOKSELLER, *and Licensed to sell Stamps,* over the door.

Ion. Oh, papa, how curious! Is Mr. Cooper, who sold me my new slate—is he *Benjamin?* I never noticed his wooden leg.

W. That is because he is always behind the counter; and what became of Jane, papa?

P. Jane was married to somebody. She often sees her brother, Mr. Cooper, and sometimes she reminds him of their old lesson—*It is not honest to run any risk with other people's money.*

SPARE THE INSECT.

OH, turn that little foot aside,
Nor crush beneath its tread
The smallest insect of the earth,
Which looks to God for bread.

If He, who made the universe,
Looks down, in kindest love,
To shape an humble thing like this,
From his high throne above,—

Thou shouldst not dare, in wantonness,
That creature's life destroy,
Nor give a pang to anything
That He has made for joy.

My child, begin in little things
To act the gentle part;
For God will turn his love away
From the cruel, selfish heart.

E. O. S.

VERTEBRATED ANIMALS.

DIVISION INTO CLASSES.

M. We formed two classes of vertebrated animals last Tuesday —warm blooded classes.

L. Yes, mamma—

The Mammals, and
The Birds.

M. Here is the old list of animals for you to select from.

Lion,
Sprat,
Cameleopard,
Mole,
Whale,
Mouse,
Boa Constrictor,
Sole,
Eagle,
Frog,
White Bear,
Hen,
Horse,
Bat,
Ass,
Nightingale,
Elephant,
Hedgehog,
Hippopotamus,
Robin,
Turtle,
Humming-bird,
Cow,
Dove,
Salmon,
Cat,
Ostrich,
Crocodile,
Boy,
Squirrel,
Parrot,
Pig.

W. And what have you got in the basket, mamma?

M. You shall see. To-day we will talk of a *creeping animal.* This poor FROG which I have brought in a basket to see you, is —ah! he is hiding himself—I suppose he is under the grass which I have packed him in.

Ion. Perhaps he has gone home again, mamma.

L. Or perhaps he is looking for an insect.

M. No. Here he is,—in the corner. Come out, sir, to the light, and see the company. Now look at him.

L. Ah, pretty fellow—we want to notice your *limbs*—your *covering* —your *blood*—and to know something about your *young ones*—how you feed them, and so on.

W. There is one thing he may say for himself. He has four legs like a cow.

M. But with this difference, his legs are so placed that his body is brought close to the ground—and he cannot *walk* very comfortably.

M. No, he can only crawl, or hop, or swim.

Ion. I will examine its covering. It has no hairs nor feathers—there is no covering at all to its skin—it has a *naked* skin.

M. But this is not the case with all creeping animals. Some have a scaly skin—some have bony plates on their back—some, *horny* plates—they have different coverings according to their circumstances.

L. The *blood*, mamma, is cold; —I think we all know that. Will you tell us something about *its young.*

M. Yes, its young are found in eggs. As the frog has cold blood, its body, of course, is not warm enough to hatch them.

W. Oh!—then what will she do? Why does she lay eggs at all, when she cannot hatch them?

M. She leaves the eggs in the water—and in time they are hatched by the heat of the sun.

L. I think that the frog must be a bad mother. Does it not know its own young ones when they are born?

M. No; I do not think that she *could* know them. They are not born frogs, but *tadpoles.*

Ion. That is just like the butterflies—when they are born, they are caterpillars.

M. I will interest you a little while by giving you the history of these tadpoles.

"A single female frog produces from six to eleven hundred eggs at a time, and, in general, she throws them all out at once; though sometimes she is an hour in performing this task.

"The spawn then drops to the bottom of the water. The eggs, during the four first hours, do not seem to change, but afterwards they begin to enlarge and grow lighter; and by this means they rise to the surface of the water. The twenty-first day the egg is seen to open a little on one side, and the beginning of a tail to peep out, which becomes more and more distinct every day. The thirty-ninth day the little animal begins to have motion. It moves its tail, now and then; and it can be seen very clearly that it is placed in a liquor which serves it for nourishment. In two days more, some of these little creatures fall to the bottom; and others remain swimming in the fluid round them, while their vivacity and motion seem to increase. Those which fall to the bottom remain there the whole day; but having lengthened themselves a little, for hitherto they are doubled up, they mount at intervals to the substance in the egg, which they had quitted, and are seen to feed upon it with great pleasure. The next day they acquire their tadpole form. In three days more they are perceived to have two little fringes, that serve as fins, beneath the head. It is then also that they are seen to feed very greedily upon the pond-weed. When ninety-two days old, two small feet are seen beginning to show near the tail; and the head appears to be separate from the body. In five days after this, they refuse all vegetable food; and their hinder legs are completely formed. In this state it continues for about six or eight hours; and then the tail dropping off by degrees, the animal appears in its perfect form. It is a frog.

"Thus the frog, having changed its shape, is seen to change its appetites also. As soon as the animal acquires its perfect state, from having fed upon vegetable, it lives entirely upon worms and insects. But, as the water cannot supply these, it is obliged to quit its native element, and seek for food upon land, where it lives by hunting worms and taking insects by surprise.

"The croaking of frogs is well known. Before wet weather, their voices are in full exertion; they are then heard continually sending forth their call, and welcoming the approaches of their favourite moisture. No weather-glass was ever so true as a frog, in foretelling an approaching change.

"The frog lives for the most part out of the water; but when the cold nights begin to set in, it returns to its native element, always choosing stagnant waters, where it can lie without danger, concealed at the bottom. In this manner it continues torpid, or with but very little motion, all the winter."*

Ion. That is a very curious account. I think that I shall watch the tadpoles in our pond the next time the frogs lay eggs. Now I will make the frog's "description."

THE FROG has

Limbs, which are legs—formed so that it may hop or creep on the land, and swim in the water;

---

* Buffon.

Blood, which is cold;
its *Covering* is a thin naked skin;
its *Young* are born in eggs, which are hatched by the heat of the sun.

It is therefore called A REPTILE.

L. I will count up the other reptiles.

A CLASS OF REPTILES.

THE FROG
is a reptile, and so are
The Boa Constrictor,
The Turtle, and
The Crocodile.

And may I add some *new* names?

M. If you like.

L. The Toad,
The Lizard,
The Viper,
The Rattlesnake.

M. I must point out something else to you. The young of all reptiles are born in eggs—but they are not all born in the same way. I have seen a lizard lay eggs, and the young lizards came out from the eggs as soon as they were laid. Each little one had a beautiful green and golden skin, as perfect as its mother's.

Now let us look at an *animal formed to live in the water.* I have brought with me a HERRING for you to examine.

L. I will try to describe it, mamma.

Its *limbs* are fins,
Its *blood* is cold,
Its *covering* is formed of scales, and
Its *young*—

M. Wait, Lucy. I will open this herring for you. Now notice this part, with the thousands of little eggs in it.

W. They are like little pins' heads.

M. Yes. We generally call this part of the herring the roe. Think how many thousands of young fish must be made from these eggs. As the bodies of fishes are cold—so they also leave their eggs in the water to be hatched.

W. The sun has all kinds of work to do. He has to supply the *light* for us—to ripen the corn—to hatch eggs—and to take portraits.

M. Yes. No wonder that he has been called "a servant of all work." Now describe the herring.

W. THE HERRING has

Limbs, which are fins,
Blood, which is cold,
a *Covering* of scales, and
its *Young* are formed in eggs, which are hatched by the heat of the sun.

It is therefore A FISH, and so are

The Sprat,
The Whale,
The Sole, and
The Salmon.

And I will add some names which are not in the list, to make the class longer.

The Shark,
The Flounder,
The Sword-fish,
The Gold fish,
The Cod,
The Skate,
The Minnow,
The Pike,
The Mackerel.

M. I can see *the other Mammal* in that class. Pray, for what reasons, master Willie, did you put the Whale with this company?

W. Because, mamma, it has fins and swims.

M. But its blood is warm—it

feeds its young with milk—and the parts of the whale which you are thinking of, are not exactly fins. They are *called* flappers, or swimming-paws. So you may call the whale a *water* Mammal. You shall have its history one day.

Now we will make up the lesson, and try if we can arrange the long list of vertebrated animals in better order.

Lesson 12. THE CLASSES OF VERTEBRATED ANIMALS.

VERTEBRATED ANIMALS may be arranged into four classes, two of which have *warm blood*, while the other two have *cold blood;* viz.:—

ANIMALS, *with* Limbs, *which are legs, for walking on the land;*	ANIMALS *with* Limbs, *which are legs and wings, for hopping — or flying in the air;*	ANIMALS *with* Limbs, *which are legs, formed for creeping and jumping on the land, or swimming in the water (some have no limbs);*	ANIMALS *with* Limbs, *which are fins, for swimming in the water;*
Blood, *which is warm;*	Blood, *which is warmer than that of the Mammals;*	Blood, *which is cold;*	Blood, *which is cold;*
a Covering *of hair; and*	*a* Covering *of feathers; and*	Covering *of a naked, or scaly skin;—or bony, or horny plates; and*	*a* Covering *of scales; and*
Young, *which they feed with milk. Such as the*	Young, *which are born in eggs. Such as the*	Young, *which are born in eggs. Such as the*	Young, *which are born in eggs, such as the*
COW, *Lion,* *Cameleopard,* *Mole,* *Mouse,* *White Bear,* *Horse,* *Ass,* *Elephant,* *Hedgehog,* *Hippopotamus,* *Cat,* *Boy,* *Squirrel,* *Pig,* *Whale,* *Bat.*	CANARY, *Eagle,* *Hen,* *Nightingale,* *Robin,* *Humming-bird,* *Dove,* *Ostrich,* *Parrot,* *Duck,* *Goose,* *Swan,* *Lark.*	FROG, *Boa Constrictor,* *Turtle,* *Crocodile,* *Toad,* *Lizard.*	HERRING, *Sprat,* *Sole,* *Salmon,* *Shark,* *Flounder,* *Sword-fish,* *Gold fish,* *Cod,* *Skate,* *Minnow,* *Pike,* *Haddock,* *Gudgeon,* *Trout,* *Turbot,* *Mackerel.*
These are called **MAMMALS.**	These are called **BIRDS.**	These are called **REPTILES.**	These are called **FISHES.**

THE RASHER OF BACON.

Ion. I have been thinking, mamma, what sort of a lesson will you make about bacon? *Can* you make one?

M. I dare say *we* can—if you will all help. There are lessons in everything. Have you never heard people talk about "sermons in stones?" Every grain of sand in the sea has a lesson in it,—you cannot always find out these lessons at once.

Ion. Ah! just as papa said that everything has caloric in it, but we cannot always feel it. Only if you keep on rubbing it you may soon find it out—sometimes more caloric than you can bear.

M. And it is so with the hidden *lessons* in our object. If you keep on noticing, you will soon find them out—sometimes more lessons than you can remember.

"All things have voices; the hills, the rain drops, and the unseen winds, speak to the thoughtful mind, and utter forth their lessons."

W. Then so does the rasher of bacon. So take off the cover, Lucy, and let us get the lesson out of the bacon before papa begins to eat it.

P. And I suppose that I must wait this morning.

W. Yes, please, papa, till it is nearly cold.

Now, the first sense I should like to make use of is the sense of *taste.* Please, mamma, to let me cut off a piece, that I may find out its flavour.

P. But I did not agree to that. Well, here is the knife.

W. I am certainly of opinion that it has a very *nice* taste. Here, Ion, will you taste it? What do you say about it?

Ion. I say that it has a *saline* taste. Give Lucy a piece.

P. But I am afraid that my bacon will soon be all gone.

W. Poor papa. How he is trying "to save his bacon!"

L. Willie! that is one of your vulgar expressions, which you learned at school.

W. Well, I meant exactly what I said; but, papa, you need not be afraid of losing it—for it has salt in it, and that is *conservative.*

P. I think, Willie, that you are a rather saucy fellow.

L. We will begin now to notice it carefully. Its flavour, mamma, is rather *greasy*—it has a smooth, rich, and fatty flavour.

M. There is a proper name for such a flavour. It is peculiar to all meats. We call it an *unctuous* flavour. You may next tell me what qualities you can discover by *looking* at the bacon.

Ion. I see, in the first place, that it has three parts—the fat, lean, and skin—indeed, there are four parts, for here is a piece of bone.

W. I can discover the *colorus* by seeing. The bone is white—the fat is yellow—the lean is red—and the skin is of a brown colour.

M. But, Willie—you are not very exact in your descriptions. Suppose that I wanted to paint a piece of bacon, and were to get the colours you speak of from your paint box. Flake white, for the bone; chrome yellow, for the fat; vermilion, for the lean; and so on,—what a curious rasher of bacon I should paint!

W. Yes. That is wrong. I will try again, mamma. The *bone* has a brownish white colour—the lean is a deep dark red—the fat—

L. That is of a yellowish white colour, and it is *semi-transparent* when it is hot—and the skin, that is of a blackish brown colour.

M. With your eyes you can discover the *parts* and *colour* of the bacon—suppose that your eyes were shut.

Ion. Then we could find out qualities by feeling. I could notice the difference in the hardness of the parts.

M. Or, instead of saying hardness, say the *consistency* of the parts.

W. Now, Ion, find out the difference in their consistency. I will tell you something—the skin is rough and scrubby.

Ion. And the fat is smooth and slippery.

M. The words smooth, slippery, and rough, do not exactly relate to the *consistency* of an object.

Ion. No, mamma, I was just thinking so. They relate to the *surface.* You speak of a smooth and rough surface. *Consistency* means the closeness of the particles. Let us try once more—

The bone is *hard.*
The lean is not quite hard—
we may say that it is *solid.*
The fat is *soft,* and
The skin is not so soft, but is
tough, and *flexible.*

Is that right, mamma?

M. Yes. Now you may count up the qualities you have noticed.

Ion. But I want first to ask another question about its *flavour.* What is bacon called because men eat it when they have not much appetite—

W. Call it *relishing!* it is eaten for a "relish."

L. But in the Bible there is a better word than this. Isaac once said to Esau, "Make me *savoury* meat." Bacon, too, has a savoury taste.

Ion. There is a name, too, given to the flavour because it is pleasant to the palate—it is called *palatable.*

W. And at school—when the flavour of anything is so good that we want to eat more of it—we say that it is "more-ish."

M. That, too, is a rather vulgar word, Willie.

W. But I was only going to say, mamma, that we had better each eat a piece more bacon, to prove that it is more-ish.

P. You had better not.

M. No, I think that you have found out sufficient qualities. Let me hear you repeat them.

Ion. I will, mamma.

This RASHER OF BACON consists of bone, lean, fat, and skin.

These parts differ in their colours:—

The *bone* is of a brownish white colour;
The *lean* is of a dark red colour;
The *fat* is yellowish white; and
The *skin* is of a dark brown colour.

They differ in consistency:—

The *bone* is hard;
The *lean* is solid;
The *fat* is soft;
The *skin* is tough.

They differ a little in surface:—

The *skin* is rough and scrubby;
The *fat* is smooth and slippery.

Bacon has a nice, palatable, unctuous, saline, and savoury taste.

M Very good, we will finish this lesson next week.

THE TRAVELLER THROUGH ENGLAND.

RECAPITULATION. DURHAM.

P. Before reading Mr. Young's letter, we will answer carefully the remainder of his fifty questions —one by one.*

18. What *minerals* are found in Northumberland?

19. What mineral in Cumberland?

20. What mineral in Westmoreland?

21. Tell me where the following animals may be found:—Eider ducks? Rabbits? Flocks of sheep? Black eagles? Geese and grouse? Salmon? Trout? Char?

22. Now mention all the animals you have heard of in the history of the three counties?

23. Tell me the name of a town where lead pencils are made?

24. The names of a town with coal-mines under the sea?

25. Another one, near to it, with large coal-mines?

26. A city, with a trade in hats, whips, and fish-hooks?

27. Another, where the *archers* were formerly supplied with Kendal green cloth?

28. A city where there are glass works and iron foundries?

29. What SHAPE has Northumberland?

30. The shape of Cumberland?

31. Of Westmoreland?

32. How is Northumberland BOUNDED?

33. The boundaries of Cumberland?

34. Of Westmoreland?

35. Can you tell me something of the SOIL of Northumberland?

36. Of the soil of Cumberland?

37. Of the soil of Westmoreland?

38. Can you tell me anything of the SURFACE of Northumberland? Mention two places where great battles were fought with the Scots —the names of the kings who fought in them? What do you think about *fighting battles?* *Why* do you think so? What old places do you find in Northumberland because it is a border county?

39. Tell me something of the *surface* of Cumberland—or of the people living on the surface?

40. Remarkable old houses on the surface of Westmoreland?

41. Mention the RIVERS in Northumberland—in Cumberland—in Westmoreland?

42. Which river has *two* capitals situated upon it?

43. Mention the CAPITALS of each county?

44. You have heard of six TOWNS in Northumberland—can you tell me their names?

45. The names of five towns and a village in Cumberland?

46. The names of two towns and two villages in Westmoreland?

47. Why is Northumberland so called?

48. The etymology of Cumberland?

49. How did Westmoreland derive its name?

50. How do you like geography?

W. I wonder what he means by *etymology.* There's a question for *him.* I think that I'll write it out, and send it to him,—

Q. "What do you mean by etymology?"

MY DEAR CHILDREN,—

If ever you should have the rheumatism you will be glad to get rid of it. I found the other day that I had *not* got it, so I was very thankful—and at once set off for Durham.

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* For the importance of these questions see note, page 286.

Peg's ankle, too, was better; so we were both *convalescent*—do you know what that means?—and in good spirits; but, we were some time in reaching DURHAM, which is a long way from Kendal.

We made haste at once for the capital—for in passing through the county I did not observe much that was worthy of notice. The soil in some parts was clayey, but in other parts there were tracts of gravelly soil which was very poor.

But one thing surprised me very much. Wherever I asked, "Whom does that piece of land belong to?" The answer was, "To the bishop." I wondered why so much of the country should belong to the bishop, or the Church, until I looked in one of my history books.

There, I read about the times of the *Saxon Heptarchy*—and found that "in the year 685 EGFRID, King of Northumberland, gave all the land between the rivers Wear and the Tyne, to St. Cuthbert, the northern apostle, and to the ministers of his Church for ever."

I read, too, that at one time the Bishop of Durham had very great power in this county—as much as that of a king—so that the county was usually termed *The Bishoprick*.

This ancient power of the bishops has been lessened very much by different kings; but still, in these days, the Bishop of Durham has great privileges—and he has the *richest* bishopric in England.

When I had read this, I understood why so much land in this county belongs to the Church. I found, too, that in many parts quantities of mustard are grown.

Perhaps you may have seen in the grocer's windows large tickets, FINE DURHAM MUSTARD. I have.

It was nearly dark when I reached the city of Durham. I could just see that there was a fine river called the WEAR, and that all the city seemed to be built on a hill. Then above all I saw, frowning down on the houses beneath, two solemn-looking towers, and a larger one behind them, which looked like great giants in the dark.

I thought to myself—that must be a grand old cathedral; in the morning I'll go and see it.

At the inn, after I had dined, I asked a gentleman who was reading the paper, how it happened that the cathedral was built on so high a place.

"I can tell you, sir—if you will have the patience to hear the story. At the east coast of Northumberland is an island belonging to Durham, which is called Lindisfarne, or Holy Island."

"Yes," I said, "I have passed it."

"It was called Holy Island, sir, because a holy man called St. Cuthbert once lived there, and because it was peopled by the monks, who had built a fine abbey over the spot where St. Cuthbert's body was buried.

"The Danes about this time came to plunder England, and as they knew that most monks had plenty of silver and gold, they attacked the island of Lindisfarne.

"Then"—But, dear children, I have not space for all the story; you shall hear the rest in my next letter. Good bye.

Your faithful friend,

HENRY YOUNG.

PERSPECTIVE.

PRACTICAL LESSONS.

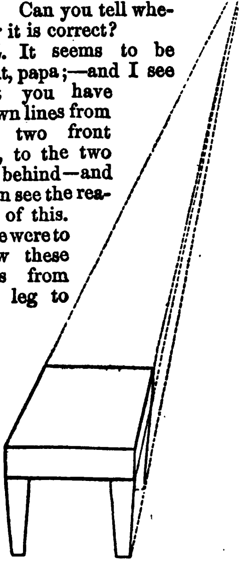
P. I think that you understand the principles which we have spoken of hitherto. Now let us *make use of them*—put them in practice—by making some perspective drawings.

Ion, you may bring me your mamma's footstool, and place it before me on the floor. Now see me draw it. The horizontal line must of course be above the stool—why?

W. Because you are so much taller, papa—even now, when you are sitting down.

P. Here is the drawing. Can you tell whether it is correct?

L. It seems to be right, papa;—and I see that you have drawn lines from the two front feet, to the two feet behind—and I can see the reason of this. If we were to draw these lines from one leg to another *on the floor*, *they* would be horizontal lines.

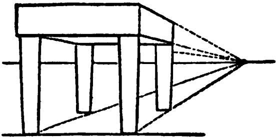


P. Now, we will place the stool on the table. Where is it now—is it above my eye, or below it?

L. I think, papa, that if we were to mark the level of your eye on the stool, we should have to draw the horizontal line across the middle.

W. When is an object more difficult to draw, papa—when it is above the horizontal line, or below it?

P. The object is quite as easy to draw in one position as in another. It cannot matter where the object is, if you will only keep to the rules, and make the lines incline to the right point. It will, however, have a very different appearance—look! and see how I have drawn it.

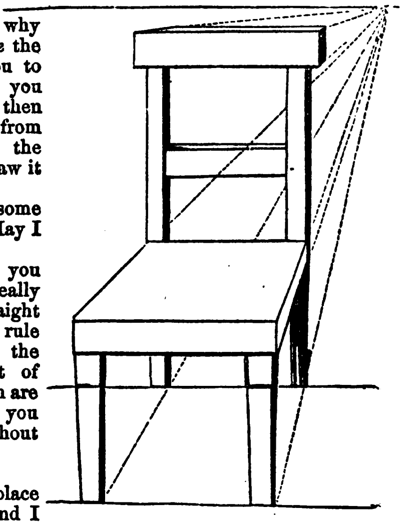


Ion. That looks very different, papa. In the first drawing you may see the top of the stool—but in the second one, you can even see beneath it.

P. I will now give you an easy exercise in perspective—a practical exercise. In these two drawings the point of sight, you may see, is on the *right hand.* Suppose that you draw the stool now—but instead of standing on the right hand side of it, move to the opposite side—the *left.* Then the point of sight will also be on the left. First copy my drawings, and then change the positions in this way.

Now, I will make a drawing which will be rather more difficult to copy. You may go, Ion, and fetch me one of the old square chairs from the hall, and place it on the floor before me.

Here is the drawing—



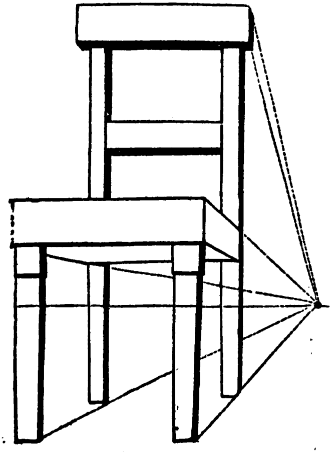
You can tell, I suppose, why the horizontal line is *above* the chair. I should like you to copy this also. After you have drawn it, you may then change your position from the right hand side of the chair to the left, and draw it again.

W. It will take me some time to do that, papa. May I *rule* the lines?

P. I should not advise you to do so, unless you really cannot make them straight without — but you may rule all the lines which show the inclination to the point of sight. I mean those which are *dotted* in the copy. These you cannot draw properly without a rule.

W. Thank you, papa.

P. Now, Ion, you may place the chair on the table, and I will draw it in a new position.



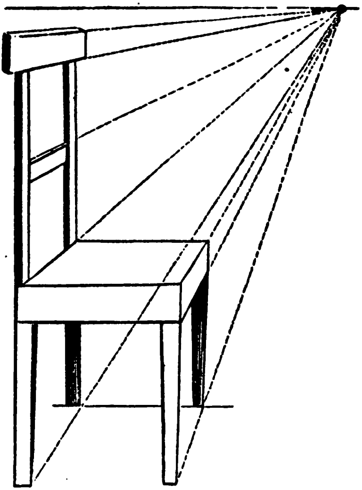
The lines, you see, are as much altered as the lines of the stool were.

After copying this drawing, you may place the chair on the table, and draw from it yourselves.

L. I have thought, papa, of another position. Please to let me turn the chair round, so that the side may be opposite to you. The front part, you see, is opposite to the fire. Now, papa, can you copy it?

P. Yes; and so can you—it is quite as easy.

You may copy my drawing, as before. Then place the chair before you, but when you draw it, instead of standing upright, so that the horizontal line may be above it, stand so that the horizontal line may be lower down. Let it cross the middle of the chair's back—the rail.



Will that be difficult, papa?

P. No, not at all, if you are not afraid. Remember that the "side lines" *must* incline to the point of sight. Therefore, rule them up to this point. Do not doubt if they should seem to you to be wrong! Remember that if they are ruled up to this point, and your ruler is straight, *they must be correct*, however strange they may appear to you at first.

When you have done this, here is another exercise. You may observe, in the first drawing of the chair, that I have made a vanishing point — on the horizontal line. After copying my drawing, you may draw the chair again with the lines inclining to that vanishing point. You will find that none of these exercises are difficult, unless you forget the rules.

L. I should like to see how many exercises we have to do, papa, and make a list of them, that we may remember them.

P. Very well.

Lesson 9. PERSPECTIVE.

LIST OF PRACTICAL EXERCISES.

1. *Draw the* FOOTSTOOL *with the horizontal line above, and the point of sight at the right of the figure.*

2. DITTO, *with point of sight at the left of the figure.*

3. FOOTSTOOL, *with the horizontal line crossing the middle of the figure, and the point of sight at the right.*

4. DITTO, *with point of sight at the left.*

5. THE CHAIR.—*Copy the drawing with the horizontal line above.*

6. DITTO, *with the point of sight on the left.*

7. THE CHAIR.—*Copy the drawing with the horizontal line crossing the legs.*

8. DITTO, *with the point of sight on the left.*

9. THE CHAIR.—*Copy the drawing of the side view with the horizontal line above.*

10. DITTO, *with the horizontal line crossing the rail in the back.*

PLEASANT PAGES

FOR THE

21st Week. MONDAY. Moral Lesson.

HONESTY.

THE TWO MEN OF BUSINESS.*

Mr. Wilson sat down to his well-stocked breakfast-table with a face which looked healthy and fresh from his morning ride; and with an excellent appetite. But sometimes he put down his cup, and stopped to smile, thinking to himself as he shook his head—"It will be a most excellent bargain."

L. Who was Mr. Wilson, papa?

P. Mr. Wilson was a gentleman with a large business in the town of Stockton. He and his partner, Mr. Sandford, were owners of a manufactory, a long building with plenty of doors and windows, and steam-engines which would puff, and blow, and work hard all day, as long as they were well fed with coal. Yes; as long as you fed them they "never tired nor stopped to rest," and always kept up the steam—but then,—they consumed such quantities of food! Coal for their breakfast, dinner, and tea—all day long—More coal!

But let us talk about Mr. Wilson. Everybody in Stockton knew Messrs. Sandford and Wilson. "Ah," said one of his workmen to me one day, "Mr. Wilson be a sharp man, zur! Yes—a very sharp man—and, a rum'un to drive a bargain. He's too shaarp by half, I thinks—for he do'ent allus mind *wot's fair*—and *sartainly*—if he do business with *any won*, zur, he'll get the best on it! He knows how to take care of his-self, I'se warrant. 'Deed, zur, I wunst heerd un say to Measter Sandford this—'Get plenty of monny while ye can. *Every won for his-self and God for us all.*'

"It's Measter Sandford that we likes, you know. He's won of the right sort, he is. He takes care on us—and *we takes care of him*, too. I'm blest if I think that he would take the adwantage of one on us. He's too oornest for thart!"

"They are both monied men," I said; "but which do you think is the richer of the two?"

"Weel, zur, as for thart—they *do* say as Measter Wilson is—but, I doant know!—he may have a little more monny now—but he wun't be the richest in the end. Yew mark my wureds now—and zee if em doant cum trew! Ah! ah!"

W. But what made Mr. Wilson *smile*, papa, when he was having his breakfast?

P. I'll tell you. He had made a bargain that morning which he thought was very cheap. He had ridden over to the village of Thornley, a place several miles off, where he and his partner had some coal mines. There he had called on an old man, the owner of a small field close to their mine, under which was a valuable vein of coal. He had inquired of the old man what would be his terms for a lease of the ground, and had made such an agreement with him that he smiled again to think of it,—and said to himself several times—"It will be a most excellent bargain." The only thought that troubled him was, "What will my partner say? Will he think that it is *quite fair?*"

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* The circumstances of this tale are taken from a piece called the "Legacy" in Messrs. Chambers's Edinburgh Journal.

On his arrival at the counting-house, he bid his partner "Good morning"—and said to him, "Well, Sandford, I have seen old Richardson about that bit of land, and he is very willing to let us have it. He says it has never been anything but a plague to him, and he shall be very glad to be rid of it. 'Tis a very fortunate thing I thought of riding over this morning, for I understand that Mr. Morton has been thinking of getting it from him, and sinking a mine there; but I was first, and I have made every arrangement. We are to have it for fifty pounds a-year. It will be a capital speculation."

"The man must be quite ignorant of the value of his own land to agree to such terms," said Mr. Sandford. "Did you tell him the purpose for which it was wanted?"

"Oh, yes; of course I told him *we thought there might be coal.* I did not see why I should enter into particulars. He knows nothing about mining, and he will, upon these terms, make a deal more by his land than he has ever done yet."

"Perhaps so, but *not so much as he ought to make by it.* If he does not know its value, we do; and I cannot consent to profit by what would be an imposition upon him."

"Nonsense; you are so over-particular. No one but yourself would think of making the slightest objection to a thing so much to your advantage. And then, again, the man is perfectly satisfied. He would not know what to do with more."

"Do you think he will be perfectly satisfied when he finds out that we only pay him half of its value. But even supposing he were satisfied, that does not alter the question. So far as we are concerned, we should be taking a dishonest advantage, to bind him to such terms."

"Why?"

"Because it is dishonest to deprive any man of that which belongs to him. No matter *how* you do it. No matter if the man knows nothing about it. This is what I think:—"*It is not an honest way of business to take advantage of another man's ignorance.*"

"Well, I don't know how it is," said Mr. Wilson, who was losing his temper; "but it is impossible to do anything to please you. If you might have your way in everything, our business would soon come to nothing."

"Nay," said Mr. Sandford, laughing, "I am not afraid of that. You know that I believe no one loses in the long-run by plain and straightforward dealing."

"Well, if you can make out that it will be for our interest to pay one hundred instead of fifty pounds a-year for the right of mining under that field, well and good, but I confess I cannot. I must say, too, Sandford, it will be very absurd of you to make any alterations in the terms.

"But, there!" said Mr. Wilson, greatly irritated, "it is no use arguing with you; I will have nothing more to do with the affair; manage it as you like." So saying, he sat down to his desk and wrote letters with great rapidity.

(Continued at page 337.*)*

THE NORMAN KINGS.

THE FEUDAL SYSTEM.

P. Do you remember the last chapter?

W. The history of the conquest, papa? Yes, that was a sad chapter.

P. And here comes another sad chapter.

Suppose, then, that ten years had passed away since William came, and that you were looking on our beautiful island from one of those mountain-tops.

First,—You would have noticed the dwelling-places of the Norman conquerors. They had come to England to be rich, and now they were enjoying themselves. They had found out the best places—and many an old abbey and monastery, which had been plundered of its gold, was now the abode of the men of Normandy. All the large palaces and mansions, too, they seized. But you would have noticed most the *castles*, which seemed to be rising up in all parts. There were not only the old castles, but new ones built of stone, with strong towers, and thick walls, surrounded by a broad ditch called a moat. Over this moat was a bridge leading to the castle gate, which was drawn up at night, so that no one could enter, and was called a *Draw-bridge*. How you would have wondered at these castles—the great number of them—castles at the north and south, castles at the east and west—castles in all parts—everywhere. In these castles lived in ease and safety the Norman knights, who were now the *rich* people of the land; they were called Barons.

Secondly,—Around the castle you would have seen a thick cluster of cottages, some new, some old, with mud and clay walls, and thatch. Here lived in misery some of the Saxon Thanes and Churls, with the peasants and slaves who tilled the ground. These were now the *poor* of the land; they were called Serfs.

Thus, in England, there were now two very distinct classes of people—the conquerors and the conquered—the rich and the poor. They knew or cared very little for each other, for they spoke different languages. The conquerors, reigning in their wealth and power, spoke only *French;* while the conquered—the poor serfs, sat at their firesides and talked over their troubles in their ancient language—*Saxon*.

You would soon have known each class; for if you had observed a man with a fine dress, with a coat of mail, helmet, and sword, or with the dress of a priest, no matter which, you would have known by his dark brownish complexion, his black hair, which was clipped and short; by the moustache on his upper lip, and by his dark black eyes—by all these things—without hearing him speak—you would have known him to be a Norman, and that he was either a *Baron* or a *Monk*.

But, by far the greater number of people were the natives. You would soon have distinguished them. If you had seen a man with light and long brown hair, florid face, and blue eyes, dressed in a *tunic*—a loose robe which fitted tight round his neck, and hung down to his knees, just like the smock frocks we see in the country now—you would have known that he was one of the Saxons.

These were nearly all the people; but you might have noticed—just here and there—a few who did not belong to either class. You would hear a noise, and would meet a few fierce men who *had been* sailors, but now were dressed in gay clothes of scarlet, purple, and fine linen; a few had even mantles of velvet, which they had brought in their ships from Italy and Spain. These were some of the old enemies—the DANES.

Or, you might have seen some old grey beards—silent, thinking, long-bearded men who had lived in these parts before. They had been driven away from England by Canute, but now had returned by the permission of William. These men, caring for none of the others, but living by themselves—they were the old JEWS.

All these people and castles you might have seen from the mountain-top, and much more. Then, perhaps, you would have asked, "What is the reason for so *much* change? Why are there so many castles in the different parts?"

I will tell you. William had come from a strange country, and had brought with him *a new plan of government.* We will look back a little.

Do you remember when I described to you our German ancestors?

Ion. You mean, papa, those wild characters who lived in the cold northern countries? I remember them well. You told us about their holding "a Comitatus."

P. I told you how the barbarous tribes would meet in the Comitatus; and some of them would agree to start on an expedition, to conquer a new country. I said, that if they conquered the country, every man who chose to remain had a "lot" of ground for his share. Thus they lived, under what they called *the allodial system.* Each man dwelt in his cottage on his farm; his plot of ground was his own; nobody could venture to interfere with his rights. He was an independent land-owner, and free.

This was the state of many of the nations of Europe in the early times of the Saxons. But by degrees their state changed. Many of the fighting men who lived in their farms would sometimes think to themselves, "This is a tame way of living; we would like to be stirring and conquering again; we would like to gain gold by fighting, not by such slow, heavy work as this. We will beat our spades into swords again, for we want to be great men, and gain glory. We will not live here any longer." So great numbers of them would often quit their allotments for a time, and would follow a new leader to rich and thickly peopled lands.

When they reached the rich and crowded cities of Italy, and the southern countries of Europe—they fought, and conquered, and made so many prisoners, that, in order to keep them safe they were obliged to separate into small parties—each party living with their leader. The prisoners were more numerous than themselves.

L. What troublesome work that must have been!

P. Yes. The barbarians now were so busy that they could seldom meet together to hold "Comitatus." Their parties were afraid to go away and leave their charge. So, as they, the common men, were not able to attend to business themselves, they were obliged to trust very much to their leaders, who met together *for* them, and thus gained more power and importance.

These leaders, or chiefs, gained power in another way. When they reached the cities which had belonged to the Romans, they saw that the fighting men were paid for fighting with *money* instead of land. So these chiefs learned something, and when they held a Comitatus to start a new expedition, they would sometimes make a different sort of agreement. The chief who wished to go, instead of saying, "All of you who come with me and conquer, shall have a part of the land;" would say, "I will pay each man so much money to be my servant for so many months, just as the Romans do." The German word for "pay" or "wages" is *sold*, and in time, these men who received their pay, or *sold*, for fighting, were called "soldiers."

Ion. But were not the Roman warriors called soldiers, papa?

P. No. "Sold" is a German word. The Roman fighting men were called *milites.*

W. Ah, we called soldiers "military men" now, so we may give a soldier a German or a Roman name.

P. Now you shall see what power the chiefs gained over the common men by this change of plan.

When they had possession of a conquered country, and any "soldiers" who wanted to remain asked for a piece of land, the chief would say, "No—I *have* paid you. I will not give you any land, but I will lend you some. I will *let* it to you. There's a piece of land and a castle;—and if you like to settle there it shall be *called* yours—but every year you must pay me rent. I do not want you to pay this rent in money, but you must agree to be my servant, and come and fight for me, whenever I want it.

Ion. Ah!—just as old Edwards lives in your cottage, papa; still, it is not his own, we *let* it to him.

P. Right. And it was so in this new plan of dividing the country—no man felt that the ground he lived on was his own, as it was on the allodial system.

When dividing the country, the *chief* would let a large piece of land and a castle to some of the *great warriors* on these terms. They would then let out smaller parts of it to the *captains* under them. These *captains*—each having a good sized piece—would divide some of their land into smaller plots and strips, and would let it to the *common soldiers* on the same terms; and then again, if a soldier had a larger piece than he wanted, he would let a part to one of the poor *conquered people*, who was to be his servant, and perform all the hard and dirty work for him. According to this plan, each man received the piece of land not as *his own*, but "in feud"—that means *in trust*—almost in the same way as men keep their houses now on *lease*. Formerly each man's piece of ground was his allotment or *allod*—and the plan was called the ALLODIAL SYSTEM. But now, each man's piece of land was merely his *feod*—and this plan was called the feodal or FEUDAL SYSTEM.

Ah! it was not so good a plan as when each man had his allotment. Then—every landowner was his own master; but now, the lowest set of men were the servants of the yeomen above them—they, in their turn, were the servants of their commanders—they, too, were the servants of the knights or barons above them,—and the barons, in their turn, were the servants of the king. So that, instead of being independent, they were all dependent on one another. Nobody was free except the king, and he, you will soon find, had *too much* power.

On the ALLODIAL SYSTEM each man was a little *plant* living by himself on his own ground.

L. And depending on his own roots.

P. Yes. While on the FEUDAL SYSTEM each serf was merely a *leaf* hanging on one of the twigs—each twig depended on one of the boughs—each bough depended on one of the branches—and each branch depended on the great trunk

Ah! it was a great and sad difference—and it had a sad effect on the spirit of the great nations in Europe; all seemed to be so many slaves, except the kings.

And it was a sad change for the English, too. In Europe the barbarians had changed to the feudal system very slowly—just little by little. The Saxons, living in their island, and not being so well able to wander, or to conquer, had learned very little of this system. They were mostly living in independence on their allotments, when the fierce and cruel William conquered, and determined to introduce this feudal system, suddenly, and by force. He divided their lands amongst about 70 of his followers.

This change chilled the hearts of the people, and made them care but little for their country.

Before this—no wars could be made by the king, unless it was the wish of the nation. He had no right to do so without the consent of the *Wittenagemot*, the great national assembly of the wise men, which you have heard of—and then, when war was declared, every man would fight because he *wished.* A part of the country was his own land, and he fought in earnest—not only to defend all the country, but to take care of his own dear household—"his wife and children at home." But now the king could declare war when he pleased, and all the rest were obliged to fight. Then, each man fought only because he was obliged. He did not fight so much for himself or for his own land, for he had none, but he fought because his lord compelled him. They all fought, not for their country, but for their king.

Thus the people of England, like the people of Europe, felt and acted as so many slaves. Now they were all dependent; they not only lost their houses and lands, but they lost that great principle of liberty, which makes a man love his life.

When we print these History lessons in "Pleasant Pages," I think it will do you good to read over this account of the feudal system twice or three times—because in these two plans are contained two great *principles* (you know what principles are), which we will try and watch all the way through the history of England—for they are at work in the government of England, and amongst the men who make the laws of England, even in this day.

And many little parts of this system remain still. I believe that it has been a rule ever since, that the king may *declare war* without asking the people or the parliament. I think it is so now.

THE RASHER OF BACON
(Continued).

M. You finished your description of the rasher of bacon last week—and now I am to give you its history, I suppose.

L. Yes, mamma—and will you please let the rasher give an account of itself in the same way as the butterfly, and the sugar-grains did?

M. But I really do not think that a rasher of bacon *can* do so—because it is only a part of an animal.

Ion. Oh, I should not think, mamma, that that makes much difference. You *try!*—see if it does not give you some words.

M. Very well—

"I, the broiled rasher of bacon, lying in this dish, am suddenly—and I can't tell how—disposed to speak. The spirit of our ancestor, THE LEARNED PIG, is rising within me, and—and—"

W. "I am going to begin"—he means.

M. Yes. Listen!

Bacon. I cannot tell the part of the pig to which I belonged;—but I have an inward conviction that I must have belonged to the best part. This conviction arises from nothing else than a natural feeling of superiority, which is, however, a sure sign of its truth.

The exact position is now (since I have been broiled) a secret which must remain a dark and clouded mystery, throughout eternal ages—

W. Who cares about his "exact position?" He seems to think himself of vast importance. I wish he would give us some information that is useful.

Ion. Really, I don't like his *style* at all; I can't understand it.

M. Nor do I. It is very pompous and unnatural. So this is what comes from wanting to hear a lesson from a *pig;* for it will only give its history in its own way. You will find that the bacon has a truly "pig-headed" spirit.

Bacon. But, it is not my intention, on so important an occasion as to-day, to confine this history to the slight and scanty details respecting myself, but rather to give the life of the particular pig with whose history my own is necessarily incorporated.

W. What *long words!* That rasher must have been cut from an *old* pig—and I do really believe that he is going to launch out into the history of pigs in general, and to make a long rigmarole.

M. Well, I cannot help that. You cannot persuade it—and, indeed, it cannot control itself now.

Bacon. You folks are making considerable (and I think rather personal) interruption to the progress of my story. But I am going to say something respecting the *race* of pigs.

The PIG is an animal holding a peculiar (and I may say)—

W. Now, never mind what you *may* say.

Ion. Go on—that's what I say, or else we shall *never* get to the end!

Bacon—position in the scale of creation. Being by far the most fruitful of that most ancient order, the Pachyderms—

W. What is that?

—indeed! the *only* fruitful Pachyderm!—a—a—a—

W. Well, *go on!*

—the pig has from the earliest,—the remotest ages, been held in the highest estimation by the most civilised nations of the—universe!

W. That is a very bad style, Lucy.

L. Yes, all his adjectives are in the superlative degree—did you notice? Earli*est*—remot*est*—high*est*—*most* civilized—I think he is an impostor. Please, mamma, *you* had better give us its history—I am tired of this.

M. No, it is of no use now—he *must* proceed.

Bacon. No wonder!—the pig is *Nature's* favourite. Whilst Nature feeds the monster *hippopotamus* on herbage and grass—the unwieldy *elephant* on leaves and branches of trees—she has made all things suitable to the palate of *the pig.* The great OAK was doubtless made that it might feed him with its acorns;—whilst the grass of the fields—the flesh of animals—decaying stalks of the cabbage—even the parings of potatoes, and other substances which no other animal *can* like, have all hidden delicacies of flavour, which are only revealed to his palate.

Thus, as kind Nature has bestowed much upon him—the pig, prompted by the generous example, willingly becomes food for others—freely giving up his numerous young, and even his own carcase to mankind, for their use.

So, too, we find that the pig has long been known and valued. By the ancient ROMANS, amongst the highest epicures, the flesh of its young was always much approved.

Amongst the ancient SAXONS—especially those of England—its flesh was the household food. The slaves or thralls conducted the pigs daily to the forest to feed on acorns and mast; and amongst the Saxons of the present day—the labourers of the soil—it is often the only animal food. The pig continued to be an object of care amongst the Saxons until the invasion of the Normans. These thoughtless Celts—devoted wholly to hawking, and hunting, and puerile pursuits—despised the labour of the farm, and the flesh of the hog; and now, just a few wretched animals, with "lank body and large pendent ears," found here and there in England, live as the degenerate descendants of the neglected old English hogs.

In later days new breeds of swine have been introduced. The Hampshire breed—the pigs of Suffolk and Yorkshire are highly esteemed. The Chinese hog has been also introduced, and has much improved the native race. But the pig of the day, the *great* pig, is the pig of the Berkshire breed. I have heard of an honoured swine who stood four and a half feet high—

W. Without his shoes—

—and when killed weighed *one thousand—two hundred—and fifteen pounds* avoirdupois.

But in speaking of the universal regard of man for the pig, I cannot pass over the contempt shown to our "body" by an old-fashioned people called *Jews.* These people seem to think that our flesh is not fit for food, and they even call us unclean!

They say they have some reason for their opinion, and talk about their *ancient institution;* but we pigs do not know what they mean; and you cannot expect us to believe in such a thing as that.

W. But, mamma, the pig ought to know that *Moses* said so; and to know who told Moses.

Bacon. I would rather not know, if you please. You will never persuade me that I am unclean,—if I can help it. And then again, the subsequent imitation of the Jews by a false prophet called Mahomet, and his followers, is so revolting a course that it needs no illustration.

Ion, What does he mean by "needs no illustration?"*

It is a pleasant task for me to draw away your attention from these degenerate races, and to contrast them with that most exalted and civilised nation, the Irish. Their proverbial good treatment of our "body" is at once natural and simple. One extract from the report of an Assistant Poor Law Commissioner will suffice:—"Whatever may be the poverty and privations of the labourer and his family, the pig is almost sure to be coddled up with a good warm dinner, and a snug corner in the cabin; and the Assistant Commissioner has more than once been puzzled to know whether his bed, or the children's, contained the cleanest and the most straw. The *great importance of this animal* to the labourer (for he is almost their only means of paying the rent), is quite sufficient to account for their care and anxiety to promote his thriving."—*Appendix F, Poor Law Inquiry, p.* 385.

How chilling and dark is the thought of a Mohammedan after this!

Perhaps a few words of Mr. Inglis, and of the late Mr. Cobbett, may with advantage be added:—"I used to be shocked at seeing a pig's snout at a cabin door, but soon I began to *bless the sight*, and to pity the poor wretches who possessed no pig. It was always to me a pleasant sight where I saw him who pays the 'rint' walk leisurely in and out of the door, or heard his comfortable grunt within." Again. Mr. Cobbett:—"In England, his creature comforts may be greater, but in Ireland, the pig and the peasant are fellow lodgers. 'Sure, and doesn't he help to pay the rint?' is the exclamation all over Ireland."

Lastly, and above all, I must add that *fifteen years ago* the value of the pigs in Ireland, was £16,693,685. What must be their value *now?*

Enough! The high position taken by myself at the opening of my introduction is *proved!* We will at once—

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* This question should be answered. It is good for children to find *occasionally* words and modes of expression which require explanation.

A child acquires much of his materials for thought, and his vocabulary, in two ways:—

1st, By noticing ideas, and inquiring for the words to express them.

2ndly, By noticing words—and inquiring for the ideas they are intended to convey.

The first is, with some truth, said to be *the* natural way—but, on the other hand, children in their daily intercourse with adults gather many thoughts from new expressions, especially when the position of the words helps to demonstrate their meaning.

Whenever a strange word or mode expression, such as the above (or the word *reminiscences* in another part of the lesson), is placed so that the child may feel he *needs the idea*—it will lead to inquiry. The habits of investigation, and of searching for the hidden meaning of words, which are thus formed, are similar to those afterwards required in the process of "translating" a language.

It has been deemed necessary to write this note, because, in these lessons, many such expressions will *occasionally* be found, which the true disciples of Pestalozzi will deprecate, while many critics will pronounce them "too difficult for children."

W. No, stop! That *won't* do! You made a great bother about your *position* ten minutes ago, and said that your "exact position" would be a cloudy mystery, or something.

Bacon. But I mean now, the position of pigs in—

W. There, don't talk *so.* They have all manner of positions—sitting up; lying down; standing; kneeling—no one wants you to prove that. You are an Irish pig!—that is proved.

Bacon. Yes, that is just the point I was coming to. A few personal details may now be not uninteresting. But no, I must not stop! Indeed, I *cannot* think again of the cabin, the children, the hot potatoes, and the pot! The history of my life contains reminiscences too warm, affecting, and tender to be touched upon. The history of my death more particularly concerns our subject.

I was purchased of my master by a man called a pig-drover or pig-jobber. This man drove me with a large company of strangers from one farm to another, where we were joined by fresh pigs, until we formed a large drove, and were taken to market.

We were soon driven from market again, to a town called *Sligo.* Here we passed through the principal streets, until we came to a narrow lane in a dirty part of the town, at the end of which was a square and comfortable looking cabin, called "the killing yard."

I spent three happy days there. It seemed to be some annual meeting of pigs, for there were altogether about 350 of us. I spent part of my time with a friend at the two crazy gates, where we held conversations through the large peep-holes with some saucy youths, whom my friend told me in a grunt were *spalpeens.*

But, the fourth day—Ah, when in the morning the gates opened, there came two gentlemen, and a man with a short heavy mallet in his hand. They began to talk about us. The man pointed to several in one corner, and said that they were intended *to supply the Navy.*

He showed the two visitors the salting-house, the slaughtering trough, the blood vat, the hooks, the hot water, and many other things.

Soon after, there came *four* men with sharp knives. Each one, standing at the corner of the yard, was told by the man with the mallet to make ready. And then, alas! the scene that followed—and the uproar! I saw one of my friends receive a violent blow on the head from the man's mallet, so that he fell to the ground stunned. He was then carried to the killing trough by one of the men with a knife, and then—but really, I'd rather stop. No more! I fled at once to the farthest corner of the yard, and may I never try to describe that scene! Ah, the squealing and screeching, the kickings and struggles, the blood, the hot water, the steam all over the yard. By the evening more than 200 out of 350, and I amongst the number, were hanging on the hooks under the shed.

Some of my fellow carcases were sent to the great town of *Belfast,* and one day I found myself hanging up in a dairy, when I was awoke by hearing a farmer's wife talking about me to a maid.

"First," she said, "you are to remove the bristles on the skin—this is done by covering the carcase lightly with straw, and by setting fire to it; you will thus singe it, and will give the bacon a fine firmness.

"Secondly, take each of these sides, or *flitches*, as we call them, and rub them with salt inside (on the fleshy sides).

"Thirdly, when the flitches are well salted, place them in this trough—but mind that you *tilt* the trough, so that all the drippings may run away—never let your bacon lie sopping in brine.

"Fourthly, keep it in salt until I come back from the north—which will be in about seven or eight weeks time—and, change the salt every five days."

All this was done to us until the "Missus" came back from the north—when there came the darkest period of my existence—we were hung up in a lodging-house called the chimney. The change of air and of scene was by no means agreeable. Oh, the heat of the place sometimes!—and the smoke. After a month, we were taken down. They said I was smoked, which I thought was quite true—and the farmer said I was "*Bacon*," which I knew was *not* true. I was *pig*, and nothing else—dead pig.

W. No. You were *bacon.*

Bacon. You may say what you like, I always was, and am, and shall be "*pig*"—you are as bad as the man who, after the farmer had packed me in sawdust, and carried me to market, tried to sell me. He called me "flitch of bacon" all day long. "There, sir!" he said, "if that had been fed entirely on potatoes, like other Irish bacon, the fat would have been loose and flabby—but feel it, sir!—it's as *firm!* Fed, sir, on barley-meal,—peas-meal, skim milk, and butter milk!—FINE BACON."

And that is all I remember.

W. There, papa. I said that the pig would make a rigmarole. He has given us a story long enough for five pages!

M. And now we will make up a lesson.

Lesson 11. THE RASHER OF BACON.

1. *Papa's Rasher of Bacon consists of bone, lean, fat, and skin.*

These parts differ in their colour:—the bone *is of a brownish-white colour;* the lean *is of a dark red colour;* the fat *is yellowish-white; and* the skin *is of a dark brown colour.*

They differ also in consistency:—the bone *is hard;* the lean *is solid;* the fat *is soft; and* the skin *is tough.*

They differ a little in surface:—the skin *is rough and scrubby;* the fat *is smooth and slippery. Bacon has a nice, palatable, unctuous, saline, and savoury taste.*

2. *Bacon is procured from the Pig, an animal whose flesh has from the earliest times formed food for mankind, except the Jews and Mahometans. It was valued by the Roman people, and was the household food in England during the times of the Saxons; but it was neglected by the Normans. In present times, however, the pigs of Ireland, and of Suffolk and Berkshire in England, are very famous.*

3. *When pigs' flesh is to be made into bacon, it is first singed, then salted, and then smoked over a wood fire. It is then said to be "cured," and the side of the pig is called a flitch of bacon.*

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY.

W. I liked that history of Coal, papa. I mean to sit on the coal-skuttle while we have this lesson. There! now I am on the ancient forest.

Ion. And we have been examining the coals, and thinking about them very much. Here is an old coal!—older than *Adam.* Only suppose, now, that a man *could* have been in one of those forests, and have known all about it. He would have said, "Thou, carbon gas, floating in the air—thou wilt not be destroyed and be useless. Thou shalt be put away for tens of thousands of years, and shall then come forth again to boil the pot!"

W. And the kettle.

L. And (but you mean, I suppose, to boil the potatoes *in* the pot. Pots do not require boiling)—and thus to boil the water in the steam-engines, and to carry hundreds of people along the railroads or across the ocean. I never read of anything so strange in a book.

P. Yes. If a man had made such an account by himself, people would have said, "It is a fairy tale." But, ah! in God's great "book of nature" there are wonders greater than man can invent; and if we could only once peep into the secrets of the Creator, we should say, "We have never known such strange fairy tales before."

You shall have another "fairy tale" to-day, if you like.

After the sinking of the forests, and the formation of the coal fields, a new layer of limestone was made. Soon after this must have begun that immense period of time which we called *the sixth day.* Ah! there were giants on the earth in those days.

W. Oh, please, papa, let us learn some tales about giants.

P. Well, I have made you a picture of one.

W. May we see him, papa? Had he black curly hair and a beard?

P. Dear me, no! He was not a *man.* If you look in your Bible for the beginning of the sixth day, you will find that man was not yet created, there were only the "creeping things" on the earth.

W. Then they were *Reptiles.* Giant reptiles! We learned of the reptiles in our Natural History lesson last week.

L. And they seem, papa, to have been made in their proper order.

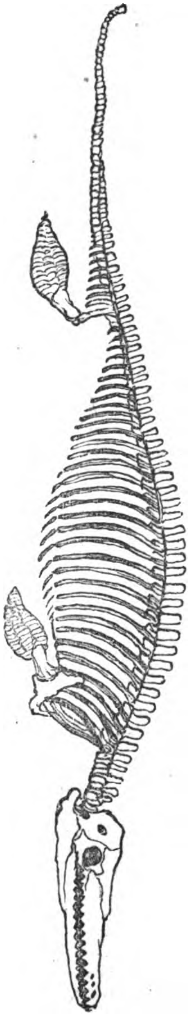
The first animals we heard of in the history of the rocks were the Radiated Animals. Next we find some Molluscous and Articulated Animals, and then when we come to the Vertebrated Animals, we find that *the lowest class* —THE FISHES—*were made first.*

Ion. Yes. And the class above the fishes are the reptiles.

W. But reptiles are such small things. Frogs, toads, and lizards. The tortoises and boa-constrictors are rather large. There are no large reptiles—none that would make *good giants,* except the CROCODILES.

P. And my giant is a sort of crocodile—only he is such a monster. Here he is!

Here he is. THIRTY FEET LONG! If we could only bring one into our house, and lay him along the passage, we should want to lay the rest of his body along the stairs, while his head would have to be put out of the landing window.



The Icthyosaurus.

W. His tail would peep out under the door.

L. And perhaps hang down the steps.

Ion. But it would spoil his tail to put it under the door; it would *jam* it. His head might be out of the window—that would be the best place for it, because he could not bite!

W. And he would not know that we were examining him. I should think that they hardly liked to look at each other—they must have been afraid.

P. No. These giants, when they came, were masters of the whole world. In "the fifth day," the *fishes* were the highest animals, and were lords over all the others. But now, in the sixth day, as the air was becoming purer, and the land cooler, and fitted for animals to live upon—they were obliged to submit to this new and superior race—the reptiles.

W. But, papa—our friend the giant seems as though he could *swim* a little—like the other reptiles.

P. Yes. God formed them to live in the water and land too, according to the troublesome and unsettled state of the times. Think, what a fine picture the world must have been at the beginning of this sixth day. Think,—there were even greater giants! You know how very wide the road is at the end of our street—it is *very* wide.

L. Yes, papa.

P. Well, then—some of these reptiles had bodies which would have reached from one side of the road to the other. They were more than FIFTY feet long!

Now let us see how these gentlemen—these noblemen—

W. Say these *barons*, papa.

P. Yes—how these barons enjoyed themselves amongst their serfs. In every place that was warm, they lived at ease, and were the powerful lords of the fishes in the sea, as well as the smaller animals in the land. What idle days they spent!—sometimes lying lazily in the rich green beds of the hot marshy lands—or plunging into the pools, or rivers, or seas, wherever their fancy might choose to take them—with no fear of man before their eyes!

There were many different sorts. In the low and very damp jungles, there lay dreaming the round heavy *turtles.* There they lay—crawling slowly, or snoring comfortably in the warm corners.

Others, more active characters, came out at evening. They had wings something like those of a *bat!* and, looking like immense birds—they flew through the air pursuing the great dragon flies, and insects, just as the small common bats do now;—whilst below—as it was cooler in the evening time—our giant, the ICTHYOSAURUS, and swarms of larger and smaller friends, would stir themselves—take great voyages across the seas to look after their water-subjects—or swim about stately, to keep the fishes in awe.

Such were some of the community who peopled this world before the creation of man—who inhabited the lands, the rivers, the seas, the lakes, and the air.

L. Thank you, papa, for their history—but, we have not heard of any new rocks yet.

P. No—but I have not forgotten; the formation of rocks had been going on all this time. I said that after the coal, there was another layer of limestone. Then another layer, called the NEW RED SANDSTONE ROCKS;—they contained not only red sandstone, but limestone, and other rocks of blue, grey, and red colour, with layers of rock-salt, which you have heard of before. All of these are now called Red Sandstone Rocks.

Above these was formed another set of rocks;—these rocks were formed of rather large particles, which look something like the egg or roe of a fish—on this account they were called OOLITE ROCKS.

Above these oolite rocks was formed a layer of CHALK ROCKS. In the southern part of England, in Surrey, and in Kent, there is a large range of hills, which are formed of these rocks. They are called *the chalk hills*—and at the shores of England—at Dover, and Hastings—these hills end suddenly in tall white chalk cliffs.

These were the last of the secondary rocks. During the long ages in which the water formed these different strata, the giant reptiles had been, as I told you, the sovereigns of the world; but now they began to decrease in number, for they were to give way to a superior race of animals. The earth had been prepared for them, and they were coming to inhabit it. You shall hear about them in the next lesson.

W. Where they *giants*, papa?

P. Yes, some of them,—even mightier giants than the reptiles. But let us remember what rocks we have learned about so far.

1st, The PRIMARY ROCKS.

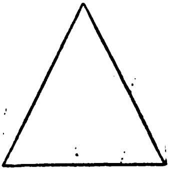
2nd, The TRANSITION ROCKS, containing Slate, and Old Red Sandstone.

3rd, The SECONDARY ROCKS, which contained Mountain Limestone Rocks—Coal Beds—New Red Sandstone — Oolite Rocks—and Chalk Rocks.

PERSPECTIVE.

TRIANGLES.

P. What do you say to this Triangle, Ion? Do you think you could draw it in perspective?



Ion. Do you mean—make a *side view,* papa?

P. Yes.

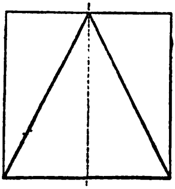
Ion. Then I don't think that I could very well.

P. You can draw a square in perspective, can you not?

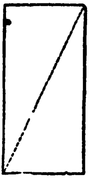
Ion. Yes—easily.

P. Then it is just as easy to draw the triangle. You can see at once if I place it inside the square.

W. There are three triangles in it, for each "outside piece" is a triangle—*a scalene triangle.*

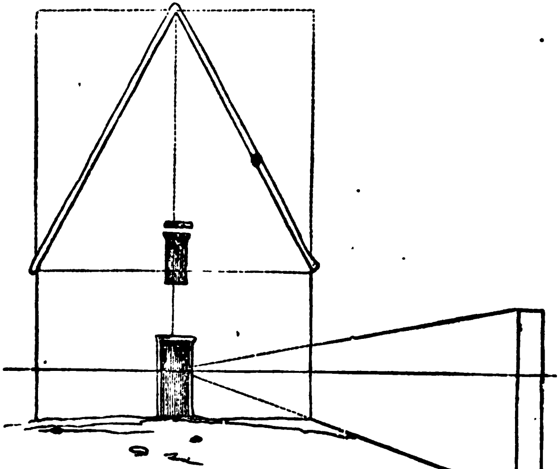


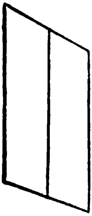
Ion. So it is. And if you join the two together in this way—look! Then you get a *parallelogram out of it.* What do you say to that?



W. I'll tell you what you may say. Say that a square is a thing—no, a *figure*—which consists of a triangle and a parallelogram.

P. And you may say, too, that you are making too much "talk." Please to pay attention to my

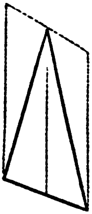




square. Here is a side view, which is drawn in perspective. And, now that the square is divided, you may see how easy it will be to make a side view of the triangle. Who will draw it?

Ion. I will, papa, if you please. Will you let me? There!

P. That is correct. We will now make a drawing with a side view of a triangle in it, for an example.

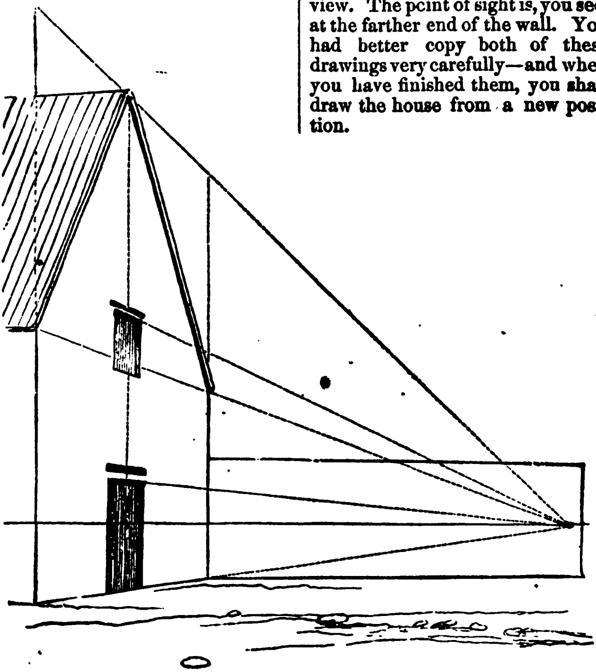


L. We will all remember, papa—

P. Then here is the drawing for you to copy—(*See Cut at foot of the preceding page.*)

I will now turn the view round, so that you may draw the side view of the triangle.

Here is the drawing of the side view. The point of sight is, you see, at the farther end of the wall. You had better copy both of these drawings very carefully—and when you have finished them, you shall draw the house from a new position.



HONESTY.

THE TWO MEN OF BUSINESS

(Continued).

"Well, Wilson!" said Mr. Sandford, in the course of the day, "if you really will not do anything with that business, I will see Richardson myself. I should like to give him as the rent of his land, just what I should expect if I were in his place,—say one hundred a-year."

Accordingly, that same evening, Mr. Sandford rode over to Thorley. He found the old man at work in his garden, so busily engaged in digging up potatoes, that he scarcely paused to look up, or return his salutation. "My partner was here this morning, Mr. Richardson," said that gentleman, "speaking to you about a piece of land of yours; and I understand you partly made an agreement with him to let us have a lease of it at a rent of fifty pounds a-year?"

"Why, yes," replied he, "you ar'na far wrong; there was something o' the kind talked on atween us."

"Well," said Mr. Sandford, "perhaps you do not quite understand for what purpose we want that field of yours, and are not aware of its value to persons in our business?"

"No, sir."

"Well, then, I'll tell you. It is worth much more to us than fifty pounds a-year; and I have come to see you this evening, to make what I consider a fair proposal for both parties. If you are willing to accept one hundred a-year for it, I shall be glad to have a lease of the land upon such terms, as it lies near to one of my pits; but farther than this I am not prepared to go."

The old man paused from his digging, and looking up at Mr. Sandford with an admiring twinkle in his eye, said, "I've always heerd say, sir, as you was a rightdown good un'; an' now I believe it. You see, sir, I cou'na say as I understand much about the vally of coal an' such like; but I seed as Mester Wilson were mighty anxious to get the field; an' at after he were gone, I turned it over i' my mind, an' I thought, as he seemed so willin' to give fifty pounds, which is above the real vally of the land, as land, he might be willing to go a little further, if I hung back like. Just as I were thinking i' this ways, up comes Mester Morton, an', says he, 'I heerd as you was wanting to sell that bit o' ground o' yours as jines up to Mester Sandford's coal-pit.' So, says I, I rather think you heerd wrong, sir; for I wasna thinking of selling it at all. 'Oh,' says he, 'perhaps it was letting it, then, you was thinking of? It cou'na be of much use to you; an' I dare say you would make more by it that way; now, s'pose I was inclined to make a bargain with you, what would you let it me for?' Why, says I, I've partly promised it, you see, to Mester Wilson for fifty pounds a-year; an' then he fires up, and says, 'Well, what an imposition; it's downright disgraceful; you mustn't accept it, Mester Richardson. I'm willin' give you seventy, or even eighty; so you'll consider my offer, an' let me know what you decide on to-morrow;' an' with that he rode away. But you see, sir, I didna like Mester Morton's offer no better than Mester Wilson's; for I thought they was both 'birds of a feather.' I wasna quite so soft as they thought me. But, sir, I think you are honest (no offence); for you tell me what you want the land for, an' make an offer you're willin' to stick by; an' so, sir, you shall have it, that you shall, even if they offer me a hundred and fifty; an' you may send a lawyer to draw out the lease as soon as you like."

"Very well; then I may consider the matter settled? The lease shall be drawn out as quickly as possible, and will, I hope, be ready for your signature in a few days." So saying, and wishing the old man good evening, Mr. Sandford turned towards home. Richardson stood for some minutes looking after him, spade in hand, then calling to a neighbour who happened to be passing by, he said, "I say, John, do'st know who that gentleman is there upo' the brown hoss?"

"No," replied his friend, "I canna say as I do."

"Well, then, I'll tell thee; it's the honestest man i' Stockton, let the other be who he will; an' that's Mester Sandford. He's put fifty pounds a-year in my pocket; an', please God, he shanna lose by it i' the end; for I'll leave him all I leave when I'm dead; and it's not so little, for I've naither kith nor kin, an' it'll do some good that way, more than I shall ever do with it, I doubt; for they say as he's as open-handed an' kind-hearted to the poor, as he's honest and straightforrard." In the meantime, Mr. Sandford rode home, ignorant of Richardson's benevolent intentions towards him. Though in the course of a few days what had been said was repeated to him, it was no sooner heard than forgotten, and, in the press of business, the whole affair passed from his mind. A short time after this event, it became known in Stockton that Messrs. Sandford and Wilson were about to dissolve partnership. No one was surprised; the only thing people wondered at was, how two persons, differing so much in their manner of conducting business, should have continued together for so long a time.

It was on a bleak and gusty morning in early spring, that Mr. Sandford's family was assembled in the comfortable breakfast-room; the table ready spread. The time-piece told the hour of half-past nine, and several little faces were beginning to look anxious for breakfast, and many were the exclamations of—"Mamma, what can papa be doing?" "I wonder where he is; surely he cannot be very hungry." And the eldest boy had just given it as his opinion that they had better not wait any longer, when the well-known foot-step was heard. The umbrella placed on the stand, the hat on its peg, the breakfast-room door opened, and Mr. Sandford made his appearance, looking even more good-humoured than usual, while a half-suppressed smile lurked about the corners of his mouth. The children rushed forward to meet him, and Mrs. Sandford rang the bell for the long-expected breakfast.

As soon as all were seated, and their various wants supplied, Mr. Sandford said, "Well, my dears, I suppose you wonder what has made me so late this morning?" A very general look of assent was the result of this inquiry. Mr. Sandford proceeded—"A singular and most unexpected circumstance has happened to me. John Simpson and William Wood came to my counting-house this morning, and said if I were at leisure they wished to speak to me on business of consequence. Their looks were so full of importance, that I could not refuse. They then told me that old Richardson, the man from whom I have rented that field containing the valuable stratum of coal for so many years, is dead, and has left me all his property, except a small sum to each of themselves as executors. After enjoying my surprise, they brought to my recollection what John had told me of the old man's intentions when I first agreed to take his field upon a lease. I thought nothing of it at the time, and I do not think it has ever entered my head since.

"I was much amused, as I came along, to see what an excitement this news has caused. One after another rushed breathless out of their houses, with a 'Sir, do you know old Richardson's dead, and has left you all his money?' One man was actually at the trouble of running a considerable distance to overtake me, in order to give me this wonderful information. The property, of course, is not large, though much more than he was supposed to possess. Still, I shall value it very much—because I can show it to Mr. Wilson, or to any one else, and say,—Here is a proof of the truth of my *principles*—'It is not only the best course, but it always *answers* best, to do as you would be done by, and to be *thoroughly honest.*' So, now I think you cannot wonder at my being so late for breakfast; eh, little Mary?' 'No, indeed, papa; and I think that old man was very wise to give you all his money. This remark caused a general laugh, but many others agreed with little Mary. They knew that he would use this money, not for himself, but for the poor—and since then, hundreds have had reason to bless the old man's legacy.

P. Now, Willie, what may you learn from this?

W. I may learn that if I should ever grow up to be a man of business, I must try and be as honest as I can.

P. And you may remember the rule that Mr. Sandford gave to Mr. Wilson,—***An honest man of business will not take advantage of any one's ignorance.***

HUMILITY.

The bird that soars on highest wing,
  Builds on the ground her lowly nest;
And she that doth most sweetly sing,
  Sings in the shade when all things rest:
In lark and nightingale we see
What honour hath *humility.*

The saint that wears heaven's brightest crown,
  In deepest adoration bends;
The weight of glory bows him down,
  Then most, when most his soul ascends:
Nearest the throne itself must be
The footstool of *humility.*—JAMES MONTGOMERY.

VERTEBRATED ANIMALS.

THE CLASS MAMMALS. PRINCIPLES OF CLASSIFICATION.

M. Let us look back once more.

THE KINGDOM OF NATURE
May be divided into
The Animal — Vegetable — and Mineral Kingdoms.

THE ANIMAL KINGDOM
May be divided into
The Vertebrated—the Articulated—the Molluscous — and the Radiated Sub-kingdoms.

THE VERTEBRATED SUB-KINGDOM
May be divided into the four classes,
Mammals—Birds—Reptiles — and Fishes.

THE CLASS MAMMALS
May be divided into—

L. Ah! we do not know anything about that.

M. Then "that" we will talk about to-day. Let us look at the class of Mammals we made last week, and see whether they seem to *require* arranging.

Lion,
Cameleopard,
Mole,
Whale,
Mouse,
Horse,
Boy,
Bat,
Elephant,
Hedgehog,
Hippopotamus,
Cow,
Pig.

Ion. Yes, mamma, they do not seem to be much alike. A boy is not like a bat.

W. And a cameleopard has a shape different from the mole's, at the same time it is rather larger.

L. So, too, the hippopotamus is a different-looking Mammal from the hedgehog. But when we make the divisions what are we to call them—*Sub*-classes?

M. No. *Orders.* The Animal Kingdom is divided into sub-kingdoms—a sub-kingdom is divided into classes—and a class is divided into orders.

W. And how is an order divided?

M. Ah, that is not a proper question. We shall find that out in the proper time. But *how* are we to arrange this class Mammals into orders?

Ion. We cannot tell yet, mamma. We arrange the Vertebrated Animals according to their limbs — blood — covering — and their young. But all these animals have four limbs, warm blood, and so on. So I suppose we cannot arrange them according to these four points?

M. We shall see. Let us stop a minute and think. It is very important that you should find out what is the proper and natural way to arrange them.

W. I suppose that by *natural* you mean the way in which God has arranged them.

M. Yes. We will talk about that by-and-bye. You know that to arrange these Mammals into orders we must find out some fresh points in which a certain number of them may be alike. You understand that, I suppose.

W. Yes, I should think that we all understand that, mamma; but the question is, I suppose, *which parts of the animals are we to notice.*

M. Yes; that is the question—they may be alike in so many different ways, you know. Many of them are alike in *colour.* Put all the *brown* ones in a row, and then the *black* ones, then a row of *white* ones, or spotted ones — just as Bonaparte with his soldiers made one regiment with red coats, and another with blue coats—arrange them according to their colour.

W. Ah! but then, now I think about it, we should make some very curious classes. For instance—

Ion. No. I'll give you an instance. The white bear, the white mouse, and the white sheep—they would be in the *white* class.

L. Or we should put together the black bison, the black bat, or the brown horse, and the brown squirrel.

M. That would never do—so you can tell at once, by their being so different, that they were not intended to be arranged thus.

Ion. Ah! I'll tell you something—you may arrange them according to their *size*—that is a good thought—and then you would have—

W. No!—You gave *me* an instance last time,—just let me give you one—and then you would have—now listen!—then you would have the wolf—and the sheep!—the lion—and the deer!—the cat—and the rabbit!—and after that—that is, after they had been placed together for a day or two, you would have—*half of them!*—for the one half would have been eaten up by their class mates. And then, as mamma said just now, we could tell by their being so different that they were not intended to be arranged so.

M. Yes. And you might try many other ways of arranging (for there are many other differences), but none of them might be right.

You might arrange them according to the similitude* in their tails, or the resemblance in the initials of their names—first, order A, ape, armadillo, ass, ant-eater—then, order B—order C—and so on. Or, you might make orders just as they make classes in school. Those who *understand* best, in the 1st class—those who are rather foolish, in the 4th class—and those who are perfectly stupid and cannot read at all, in the last class.

L. Then, in that class they would *all* go—and we should be no better off than before—except that we should get rid of mankind—they would be in the 1st class.

But, dear mamma, how *are* we to arrange them? what is the use of telling us how they must not be arranged?

M. A great deal of "use"—I want to show you how many mistakes we may make, and how careful we must be to find the proper way. Men have been a long time finding out the natural way of arranging animals. I have some books, where they are arranged in a very curious manner, which men say now is "quite wrong."

Then, I suppose that the *natural way*—the way in which God has arranged them—is the proper way, mamma? Of course, that must be the best way—but then, how are men to find that out? God has not told them, I suppose.

M. By thinking—God tells us many things when we think. Suppose that *we* set to work and think, ourselves. The elephant, the boy, the bat, and others are *very* different. Now, the question is—What can be the reason of these differences?—There is no doubt that the all-wise Creator had a reason for every little difference you see in these animals—in their shape, or colour, or size. We shall never find out all His reasons—but, as we want to arrange the animals according to His plan, we must try to discover some of them. Let us begin—

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* Similitude—initials. See note, page 329.

You are made to think;—but the lower animals, one might sometimes think, if we did not know how useful they are to man, that they were made on purpose to *eat.* When a sheep awakes in the morning it begins to eat, and continues eating grass and chewing the cud all day long—that is all it seems to live for.

Now, think again. Not only the sheep, but all the other Mammals, *eat,* and how many of them must there be in this world! Think of the Mammals on the mountains, plains, deserts, trees, and rivers, — and that every morning when the old sun rises with his yellow light, these thousands and thousands of Mammals rise with him. They all wake up to be fed—and, when the sun goes down in the evening, other Mammals come out for their food also. And all these animals expect to be fed every day. Now, who will find the food for them?

L. GOD will, mamma.

M. Suppose, then, that God were to say, "They shall all be fed alike." "Grass is a very good food—the sheep like it—they shall all eat grass."

W. Oh, the world couldn't grow enough grass, mamma!—unless more fields were made; and then there would not be enough, it would soon be all gone.

M. Or, if they were all to be fed on insects, just as the mole is.

Ion. Then of course there would not be enough. I wonder how many flies the lion would eat for dinner, or whether he would claw them up singly—perhaps he would prefer them hashed!

M. Or, if they were all made to live on animal food?

L. Then, they would soon eat each other up—at least, all except one, the last one. I wonder what that one would do!

W. Why, it would eat itself, of course.

Ion. No, it would not like to do that. No—no—I'll tell you what it would do;—it would make young ones and eat *them.*[*]

M. No, Ion, that would not do. It appears clearly to me that if they were all fed on the same food, they would soon be starved. So, we find that the Creator who has made them, and undertakes to feed them, gives them different food. Some feed on grass and herbs.

W. Some, mamma, on flesh.

L. Some on insects.

Ion. Some on fruits of trees and nuts.

L. And some (such as the elephant, the giraffe, and others) eat the young leaves and twigs of the trees.

W. While some animals will eat all kinds of food.

M. Let us remember these things, then:—

1st, Food seems to be one of the principal objects for which they live.

2ndly, They have different kinds of food.

3rdly, As they eat such different kinds of food, they have to procure their foods from different places. A monkey, for instance, has to procure its food on the trees—while a cow grazes on the land. Suppose the order of things to be changed suddenly, and the cow has to get her food upon the trees.

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[*] The author begs to apologize for some of these unseemly remarks, by saying that they, as well as many others in the book, are the actual expressions of the children to whom these lessons have been given in school. He does not, therefore, like to erase them, even though they may not be "quite proper."

L. She could not, mamma, because she has no hands to grasp the branches—she could not hold on with her *hoofs*.

M. Then let a dog come and seek his food there.

W. But *he* could not climb—he has only *paws*.

M. Then suppose the Mammals called whales were to take the monkey's place.

L. They could not get up—they have only *fins* to move with.

M. Then suppose a lion were to come, he would say, "*I* can live in the monkey's place!" He would climb up the cocoa-nut trees, and seize the large cocoa-nuts with his *claws*—but, then, poor fellow, when he put them to his mouth, he could not *crack* them. He would find that his teeth are made long and pointed, and very sharp for tearing and cutting animals' flesh.

So he would say to the first monkey he met up there grinning at him, "I say, friend, this won't do, for I cannot get on. I find that we are not only *different in our limbs*, with which we get our food, but we have different *teeth* for eating our food. So I'll wish you good day."

No! let every animal be in its proper place, then you will begin to see *why* there are these strange differences in their parts.

The Cow, who eats the grass on the land, has *hoofs*.

L. The Whale, who eats fishes in the water, has *fins*.

W. The Dog, who runs after animals on land, has *paws*.

M. The Mole, who grubs and digs for worms *under* the earth, has extremities, something like *shovels*, or *scoops*.

L. And, mamma, the Bat, who flies about for insects *above* the earth, has *wings*.

Ion. And the Monkey, who climbs for the fruits on the trees, has *hands*.

M. And when you begin by noticing even the difference only in one part, in their *limbs*—when you see that while the cow and others have *hoofs*, others have *fins*, *paws*, "*scoops*," *wings*, and *hands*,—then you can say—"I think I see now the reason of *these* differences."

W. Yes—Let me say it, mamma, please—

God has given them different kinds of food—therefore he has made a difference in their limbs, that they may procure this food.

M. And there are many more differences in their other parts, which we will try and find out the reason for next week..

L. Yes; and I suppose that there are differences in the *teeth* with which they eat their food. If we could only find out the reasons for all the differences, how much easier it would be to make them into classes!

M. And it would be very pleasant, too. It is pleasant to find out the reason for anything, especially of anything made by God.

THE NORMAN KINGS.

WILLIAM THE CONQUEROR.

P. Yes. The FEUDAL SYSTEM decreased the power of the people, and increased the power of the king.

And William took care to use this power for himself.

After giving land to the 700 of his followers—hear how much he had for his own share! He had "*one thousand—four hundred—and twenty-two* estates—besides farms and lands in Middlesex and Shropshire!" From these lands, and other sources, he gained a revenue every year so large, that if we were to put down its value in sovereigns, it would come to twelve hundred thousand pounds.

W. That is more than a *million* pounds, papa!

P. Yes, and then with one pound you could go to a shop and purchase nearly ten times as much as you can now—so think again, his income would now be worth more than TEN MILLIONS POUNDS A-YEAR! We may therefore believe that "there never had been in any age, or nation, any prince, or any emperor, whose riches and power could be compared to that of WILLIAM THE CONQUEROR."

What would the people say to their conqueror now?

Ion. They would say he was very rich!

P. And powerful too. They would whisper, "great and mighty king!"

You would have thought him a mighty king—for he must have been a strong and heavy-handed man to keep down those active and restless barons. Yes—he was like some tall mountain, which, as I said in our Geology lesson, the active fire from beneath had raised up on the earth. These mountains, you may remember, were soft and yielding when they were being made, but, afterwards, they became cold and heavy stone, pressing down on the fire that had raised them up. So did William.

But, you remember, sometimes the fire "would not stand it!" Sometimes giving a restless roar, it would make efforts to rise again, and in the great earthquakes would give the old mountain many a shake.

And so it was with the heavy-handed William. He had taken away the liberty of the Saxons, but he could not take away their love of liberty! The fire was within, and all through his reign it gave him "many a shake."

Not only did the people make the dreadful conspiracy I told you of—but, again and again, he had to march against and conquer the different towns before he could quite establish the feudal system.

The BARONS, too, were restless, fiery spirits, and, once or twice, those who were not satisfied with their lands, rose up in arms against him—but these William conquered.

MALCOLM, King of Scotland, whom William had once defeated, rose again, and attempted to seize part of his kingdom at the north —but him, too, William conquered. At the same time he built Newcastle, for the protection of the people.

CANUTE, too, a king of Denmark threatened to invade England; and prepared a large fleet of ships, to see if *he* could not give this conqueror a shake; but William, with his money and by other means, caused Canute's soldiers to rebel—so him also William conquered.

His son, ROBERT, alas! rebelled against him, and fought to gain his father's Dukedom of Normandy. In one battle this foolish son almost killed his own father!—but at last, him also William conquered.

William had a half-brother called ODO, the Bishop of Bayeux, who rebelled against him. Odo had gathered so much riches, that he thought he would use them in purchasing the Popedom. He would go and be *Pope!* So, once when William happened to be absent in Normandy, Odo went secretly to the Isle of Wight, and fitting out a vessel, he loaded it with immense treasures, which he intended to take to Italy. While, however, he was being detained by contrary winds, William heard of this, and returned to prevent such great wealth being taken from his dominions.

Just as his brother was stepping on board ship, William ordered him to be made prisoner; and it is said that the attendants being afraid to seize such a holy man as a bishop, William arrested him with his own hands.

Pope Gregory directly sent a message to William that he was to let him go because he belonged to the Church—but, William sent back word that he seized him not as a bishop, but as the *Earl of Kent*, and that he meant to keep him. So, notwithstanding all the angry threats and remonstrances of the powerful Pope, William did keep him. He sent Odo as a prisoner to Normandy; and kept him in custody till the end of his reign, thus—him also William conquered.

W. And I suppose he kept all those *treasures* for himself.

P. Very likely. Although the Pope would try to prevent him. But he did not care for the Pope—not he! Unlike the kings before him, the Church had not been able to interfere with his government. He was a very good Catholic, but then he was the king of 700 barons!

Of the names of these 700 barons, and their estates, he made a *list*,—with an account of all the lands, except the abbey lands, and those of the priests, who refused to give in any account. This list was written in a large vellum book, called "*The Doomsday Book*," which is still preserved in the Exchequer, in two volumes. The first volume has 382 double pages—and the second 450 double pages; and I dare say he thought them "*pleasant* pages," as he read them over, and counted up the number of great and powerful men who served him!

So, no wonder men called him "great and mighty king." They had tried to shake him, but his heavy hand had conquered them all. All people now obeyed him. I have read in some history book that, to show he was their rightful lord, he summoned a meeting of the nobles to do him homage for their lands. Think of that great meeting. How many hundreds of these splendid barons, proud and haughty looking characters, followed by their trains of knights and yeomen, must have met together! Perhaps it was at Winchester, for I forget where, in some great hall, where they all stood round their Conqueror. And then these dark-faced, crop-haired warriors bowed down to William, kissed his hand, and swore fealty to him as their king.

Now, what would you have said if you had been there?

W. I would have said, "GREAT AND MIGHTY CONQUEROR!" just as the others did.

Ion. So would I, papa.

P. And yet, do you know he was a very *poor* conqueror, after all!

L. *What*, papa?

P. *A very poor conqueror.*

W. But he had ten millions a-year!

P. And yet if you had known him well, you would have said, "*Poor fellow!*"

Hear what I say—

Poor fellow—poor fellow—poor fellow; for all his riches were *outside him!* There were no riches *within* him—in *the man* himself. Indeed he had no riches at all—for he had not gained happiness, and only those things are riches which make the heart glad.

Ion. Oh!

W. But, when he had *the ten millions a-year*—did not that make him rich?

P. No—*it only made him poor.* And I'll show you how.

In his mind was working a selfish desire to be above all other men, which is called *ambition.* When a man has ambition, his mind feels very hungry; but, as long as he is working hard to get riches, and power to satisfy that desire, he feels a certain pleasure, called the pleasure of *getting*.

W. Something like that we feel when we are eating?

P. Yes, something like that. But, when he had got all this greatness and gold, he could not have the "pleasure of getting," any longer; and yet he had that desire within him still—it was not satisfied; and it made him miserable.

W. Ah! then, of course, it made him *poor.* How curious!—for so much money to make a man poor. But, the *gold itself*, papa! and the power, would not that make him happy?

P. Oh! dear no!—the *gold* could not satisfy him. It could not bring happiness. Happiness cannot be made of any mineral that is dug out of the earth.

The pleasure of *having* anything is very small—there is more pleasure in *getting it;* but the greatest and the lasting pleasure is the pleasure of *giving.* Do you understand that?

Ion. Yes, yes, papa! I have often had that pleasure; so, in that way, the Conqueror might have made very great pleasure *with* his gold.

P. Ah, yes. If he had only known that riches cannot be made *of* gold, but *with* gold, then, that ambition within him, that hungry feeling, would have been stilled.

Yes; he never learned what I have told you before, that we get real riches from what we give—not from what we take. And he spent all his life in *taking from* others, poor fellow!

Listen to what happened to him. His spirit of ambition was now very strong, and very restless. Yet he could not satisfy it. So, as there were no others to be conquered—it began to conquer him.

He was driven all day to seek new pleasure. to quiet that restless spirit. He would seek pleasure in hunting the wild animals in the country; but then, so that he might have this pleasure to himself, he acted unjustly. He cared more for the deer than the people he governed. Before—any poor man might catch the animals in the woods, but now he made a law that no one should hunt in his forests. It is said that "he loved the wild deer as if he had been their father!" and ordered, that "whosoever should slay hart or hind, him should man blind." So the killing of a deer, a boar, or even a hare, was punished with the loss of an eye. This was part of what he called his FOREST LAWS.

He then did a much worse thing. Not being content with his large forests in all parts of England, he determined to have one near his residence at Winchester. He therefore ordered thirty miles of country to be laid waste—he pulled down and burnt the houses, abbeys, and thirty-six churches—turning out the people to go where they could, without any payment for their dreadful loss. On this land he planted what is still called the New Forest.

Ambition, I told you, is made of selfishness. Oh, how dreadfully this selfishness worked! He could have no pleasure in his castle at home. His sons would not love him—they were disobedient and rebellious; his wise and beautiful wife, Matilda—her heart was broken. She felt that

> "Glory built on selfish principles is shame and guilt,"

and died.

Two years after this he went to Normandy, to punish some nobles who had rebelled. Being taken ill here, the King of France, who heard of it, made some rude remark about his lying in bed with a big belly—for he was becoming stout. William could not bear this, it hurt his selfishness, which turned round upon him, and tormented him into a state of fierce anger. He sent back word that he would soon set the kingdom of France in a flame. His evil passions drove him on, and in a rage he took the town of Mante, and burned it to the ground. As he stood looking at the flames, his horse plunging into some hot ashes, started and threw him off his saddle, so that he received a violent bruise, of which he soon after died. This happened near Rouen, in Normandy, in the year 1087, when he was sixty-three years old.

Thus ended the Conqueror. He died when he was burning a city. Poor king, perhaps he had never had either happiness or riches. His bad passions always made him *want* something; but, as he could not satisfy them, the Conqueror became their slave.

I could tell you how they tormented him as he died, but that is enough. So much was he hated, that, at his funeral in Caen, a man forbade the burial of his body. "That very spot," he cried, "is the site of my father's house. I summon the departed soul to answer to God for his crimes." And the man would not allow him six feet of ground to rest in, until its value was paid.

Was he not "a *poor* Conqueror?"

THE KNIFE AND FORK.

W. How are we to make a lesson on a knife, mamma?

M. We will make two lessons, if you like.

Begin by observing and describing it.

W. I don't understand, mamma.

M I will tell you. When you observe it you are to use your "senses"—you know what they are?

W. Yes—my eyes, and nose, organs of touch, and so on.

M. With these you are to notice the knife, and keep on noticing, slowly and carefully, until you get an *idea* of it in your mind—so that you can see it with your eyes shut. Not with your senses, but with your mind's eye.

Ion. I have often done that, mamma. Yesterday morning, when—

M. No, never mind that. Listen. If, Willie, you go on observing that knife with the eye of your body until you can see it with the eye of your mind—you are then said to have a *perception* of it.

Ion. And he *must* do that, mamma, before he can describe it, I suppose — because how can his mind describe a thing, if it cannot see it.

M. I will talk to you about "*describing*."

When you describe, it is your mind's turn to work. Your mind looks at the perception which your senses have given it, and when it sees the thing quite clearly, it finds a number of words, and puts them together to make an account of it.

Ion. Where does it keep the words, mamma?

M. In a place called the memory. I told you once before, that this memory is like a cupboard, where all your words and ideas are put away.

Do you remember my telling you of the *nerves*, and that you had nerves from your brain to all parts of your body?

L. I think you did, mamma. You said there are not only nerves *to* the brain, but nerves *from* the brain to the other parts. The brain uses them to make the other parts move.

W. Ah! I remember.

M. Yes. Your mind has nerves to all parts—to your eyes, nose, mouth, and tongue. So, when it has found the proper words to give an account of that knife, it will send down a message to your tongue "to move," and it will keep on moving your tongue until it has made it say all the words it had thought of.

W. Is that the way I describe? I get an idea *in* through my senses; —and, then, get it *out* through my mouth?

M. Yes. And when it receives the idea from your senses it is said to have a *perception;* but when it puts the idea into words, and gives it back again, it is said to form a *conception.*

W. How curious, mamma—and can I do that?

M. Yes. You are always doing it. You will do it now when you "observe and describe" this knife. Here is Jane.

Jane. Please, mum, here's that boy come from the Printers, and says that as master has wrote—

W. No, say *has written.*

Jane. Has writ a double History lesson this week—he can't print no more Object lesson.

M. Oh!

THE TRAVELLER THROUGH ENGLAND.

DURHAM.

Dear Children,—

Let me see. I was telling you, in my last letter, the account which that gentleman at the inn had given to me about Durham.

He said, you may remember, that some monks lived at Lindisfarne, taking care of the body of St. Cuthbert, the great saint of the north. I think I told you, too, that when the Danes came to England, they knew that these monks would be likely to have riches, and that they attacked them.

"Well, sir," said this gentleman, "the monks fled, taking with them their silver and gold, and the body of their beloved St. Cuthbert. They shifted about from place to place with their precious charge, until at last they discovered a very high rocky piece of land on the river Wear, which was nearly an island—and was overgrown with a thick forest. Here they hid themselves, and with the osiers which grew near the river, they made a tabernacle of wicker work for their saint's body to rest in.

"In the course of time, as the Danes departed, many people came to pray at the grave of St. Cuthbert—and a church of stone was built over it. The monks said that they knew they were to build it there, because the body, directly it was put down, stuck fast to the ground, and could not be moved,—which was a great miracle. The trees were gradually cut down, and houses built round the church—this is said to have been the beginning of the city of Durham.

"The Saxon word for hill is *dun;* and for island, *holme*—so the place was called Dun-holme, until by degrees its name was changed into Durham."

W. I wonder who St. Cuthbert was.

Ion. I can tell you, Willie. I have asked papa. St. Cuthbert was a man who did some strange things to make himself holy, just as St. Dunstan did. He used to wear an iron shirt day and night.

W. Not for a *night*-shirt, surely!

Ion. Yes, he did.

W. No! Did he *really*, though?

Ion. Yes, really,—and he made his own bread, because other people's bread was too good for him. He mixed ashes with the flour, and then, lest it should be too good, he kept it three or four months before he ate it.

W. The nasty fellow! Well, that is *very* nasty.

Ion. And then, again, he used to roll himself on thorns and briers, and used to wash the sore places with salt. Sometimes he spent whole nights up to his chin in water,—and in the winter time, too, as well as summer.

W. Ah, that is stupid. I suppose that there was something the matter with his mind.

Ion. No, there was not, indeed. I understand all about it. This man (and there were a great many others like him) thought that God would be pleased with him if he did so. He did it to punish himself, and to show God that he was sorry for his own sin. You see, he thought that he would get a pardon for himself, instead of asking Jesus Christ to get it for him; and, as soon as he believed that he had earned it, he said that he had become *a saint.*

W. Are you sure that that is true, Ion?

Ion. Well, that's what I remember about it; but let us go on with Mr. Young's letter.

I went out for a walk the next morning, to see the city. I crossed over the river Wear to look at it from the other side; and really it's a very beautiful place. I like it better than Carlisle.

The hill, which sloped down to the edge of the river, was covered with plantations; above them, here and there, were some lofty crags. Thus the buildings were beautifully situated, rising one above another. Some of the public buildings were very large. Then, above all, was the venerable old cathedral, with its fine towers and Norman arches. The castle, too, was a pleasant sight.

I found on examining the town that there was an University—that is, a place where *men* go to school. An university consists of several of these schools, which are called Colleges—and, here the young men learn Latin, and Greek, and other hard things, so that they may one day become clergymen. This university has not been established many years—therefore we call it a *modern* university.

Not far from the city is a place called Neville's Cross. You have heard of Edward III. While he was in France, endeavouring to conquer that country, David, the King of Scotland, thought that as there was only Edward's wife, Philippa, left to govern, it would be very easy to conquer a woman—so he invaded England with an army. But he was mistaken. Queen Philippa marched against him, and took him prisoner, with many of his nobles.

After leaving the capital, I travelled to the eastern coast, which I found to be high and rocky in most parts. There were many kinds of stone. At the north, near Gateshead, I saw a quarry of stone, which is used for making grindstones. I remembered, then, that once before (when I was at Newcastle) I had seen several very large grindstones, which had been brought over the bridge from Gateshead. The chief trade of that "suburb" is in grindstones.

I passed through a town at the mouth of the river Tyne, which was called *South Shields.* It has a trade in coals, and is remarkable as the place where the first lifeboat was constructed.

I came to another town, at the mouth of the river Wear. It has a magnificent iron bridge, of one arch, crossing the river. This arch is 100 feet high, and 236 feet in the span. The town is noted for ship-building, and for coals. It is called *Sunderland.*

I travelled along the coast towards the south, until I reached a large town not far from the mouth of the river Tees. It is a clean airy town, and the banks of the river have a very busy aspect, from the varieties of works and mills. It is famous for its manufacture of sail cloth, and rope for ships—and for huck-a-back cloth, which you use for making towels.

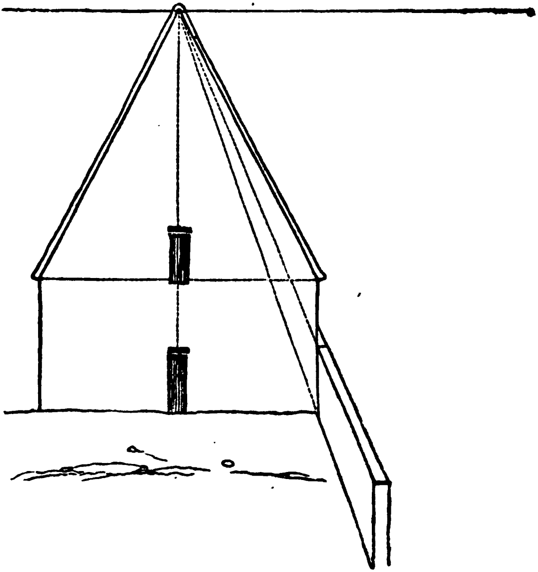
At this place I rested for the night, and made some notes, which, dear children, you shall have in my next letter.

Your affectionate friend,
HENRY YOUNG.

PERSPECTIVE.

PRACTICAL EXERCISES.

P. Here, Ion, my boy, I have brought you another drawing! Here is a copy of the first view of the house. It is drawn from a different "point of station."



Ion. But it looks remarkably different, papa—how is that?

L. I can see — the horizontal line is actually as high as the house. Why, papa! what a tall man you must have been then to have an eye on the same level as the top of that house.

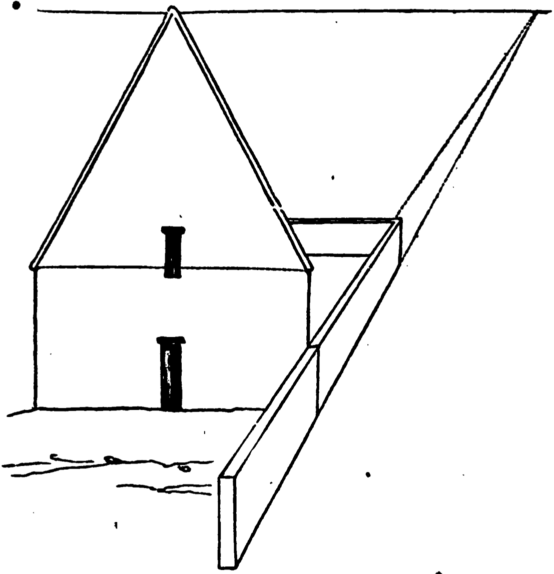
P. Indeed I was no taller than I am now—but, I was up in a very high place—the top of a house opposite to it.

Ion. You were up as high as the birds.

P. Yes, I could see over the people's heads and the roofs of the houses—just as the birds can; so, when a view is taken from such a place, it is called *a bird's-eye view.* You may now copy this "bird's-eye view" — and, I will find a "practical lesson" for you, Lucy, and another for you, Ion, to prepare in the course of the week.

You see, Lucy, in this bird's-eye view, that I have a *dot* on the horizontal line. It is at the right hand side of the picture, and is intended for another point of sight.

You are to imagine yourself standing at a point of station opposite to it—then make all your "perspective lines" meet there. In order that you may be better able to understand the way, I will first draw it for you—and you shall see me do it There!



But, now that I have drawn it for you, you are not to *copy my drawing*.

W. No,—that would not be a "practical lesson."

P. But you are to place the other drawing before you (see preceding page), and try if you can make the alterations in it yourself.

Ion. What am *I* to do, papa?

P. You may make another side view. Suppose that you are standing at the same height—but, opposite to the *wall* instead of the house.

Ion. Do you mean with the wall in front of me?

P. Yes. And with the house on your left hand. You may then fix your point of sight on any part of the horizontal line you please—and rule your lines *up* to it.

PLEASANT PAGES

FOR THE

23rd Week. MONDAY. Moral Lesson.

"Write injuries in dust, and kindnesses in marble."

W. That is a curious proverb. What does papa mean by "writing injuries in dust?"

Ion. Oh, you may easily understand that. It means—"Don't *remember* injuries." But here comes papa.

P. Good morning, Ion, my love. Well, Willie, do you like this proverb?

W. Yes, papa.

P. We shall take part of it at a time. Let us begin with the first part—"WRITE INJURIES IN DUST."

"What a long time you have been coming back! I have been here these three days," said *Reginald* to me, when I once returned to school after the holidays.

L. Is that the "Reginald" you told us of in the story on Truth, papa?

P. Yes. "Come," said he, "and have a look at the old house and school-room again!" So away we went up stairs to look at our large old bed-room. "You see," said Reginald, "they have put new paper on the walls, and a different sort of blind to the window. Now, come down stairs." So away we went. I looked into the kitchen, where the puddings were made, into the dining-room, the play-room, and stopped to look at the large clock in the hall. We next went round the play-ground, into the kitchen-garden, and the orchard; then, going all round it, we crossed the paddock where the two cows were being milked, through the little gate, and came by the back way into the school-room, where we sat down to untie my new play-box.

"Well," said Reginald, "there have been a great many changes! There are five new boys—there is one coming in at the door now, with a frill round his neck. Mr. Driver has left, and we have a new teacher—he is a rather old-looking gentleman, with a bald head and spectacles—I don't know his name."

"And I can tell you something else," said another boy, who belonged to my class. "Our master's son has come home from Germany. We have not seen him yet, but they say that he is to be a teacher in the school. He is to teach *us* writing, and the 3rd and 4th classes; and he is to teach German to the elder class, instead of the German master. He is not very old, only eighteen and a-half; and John Elder says he is not old enough to teach *him*.

W. Who was John Elder, papa?

P. Elder was one of the boys in the first class. There were in that class three big boys, taller than any of the others, who called themselves "gentlemen;" they made us look up to them, and call them "sir." They were the masters of all the others, and indeed they had tried to be masters of our old teacher, Mr. Driver, for they had given him so much trouble to keep them in order, that I think it was on their account that he left.

The next evening, after we had gone to bed, the boys began to talk about their new teacher, who was to be called "Mr. James."

"I liked him very much," said Reginald. "How good it was of him not to say anything about that blot in my book! He just scratched it out without showing it to his father, and said, 'Don't make any more—they spoil your book.' I never will make any more blots."

But Elder declared that *he* would not obey him. "Why," said he to his two companions, "he is not so tall as either of us! How the German teacher would wonder, if he saw such a little fellow teaching *us!* Did you notice how I vexed him, when I asked, 'how long he had learned German?'"

"Yes," said his friend, "but still he was very good tempered; for, what pains he took to explain the tenses of that verb! He was very good natured, after all."

As time passed on, Mr. James was liked by most of the other boys. He was very kind to Reginald and me, and often told us tales about Germany and other countries that he had seen, but still the elder boys would not obey him. They thought it was a great honour to have their own way, and that as they had not submitted to Mr. Driver, they did not see why they should mind so young a teacher.

W. But, papa, why did he not tell his father?—was he not very vexed?

P. No; he neither told his father of their bad conduct, nor seemed vexed. He did something better—he *forgot* it; until, at last, they seemed quite tired of trying to tease him.

"I'll tell you what, Elder," said his companion one night, "I think that he gets the best of it now. It is of no use to give him injuries, he *won't take them*—or, if he does notice them, he won't *keep* them. Only remember how you treated him last week, and yet he was just as kind as ever the next day."

"The fact is, Elder, you can't hurt him if you try. I think that we had better give it up, and make friends with him."

They were three very foolish boys, for they did not "give it up." Elder even went so far the next day as to write three verses to ridicule him, which were pinned, early the next morning, on the school-room wall for the boys to read.

It happened, however, by good chance, that these verses were seen by the master himself, who was very angry. He declared, that after breakfast he would find out the boy who wrote them, and would punish him most severely.

As we were going upstairs to the school-room, I saw Elder looking very pale, for one of the other big boys whispered to him—"What will you do? *Mr. James knows that you wrote the paper!*"

As soon as prayers were finished the master cried, "Silence!" He then held the piece of paper in his hand, and, after making some remarks, he said that he insisted upon knowing who had written it; that the boy who had done so was too bad a character to remain in the school; and that he should be publicly whipped and expelled.

Of course, no one answered; but I noticed, as we were waiting silently, how Mr. James looked at Elder.

L. Did he not look very angry?

P. No; he only showed *sorrow* for him: and as for *Elder's* eyes, they were looking at his boots. I was glad that he was close under the master's desk, so that he could not see his face. We all held our breath for fear—*we* saw him.

"Mr. James," said his father, "have you been able to discover the writer?"

"I think, sir," he replied, "that some of us know who he is; but, if I may ask a favour, sir, I would rather not say anything about it. I was very sorry to find out who it was; but really, sir, he could not have meant any harm—he would not have written such a thing in earnest."

And so the matter ended. I do not know what Elder said to Mr. James; for we did not see much of him all that day.

"Elder!—Elder!" said his two companions to him on the day afterwards, "what do you think? It is the Queen's birthday. We are to say all our lessons by nine o'clock; and then we are going across the lake and into the woods. Such fun! Cricket—fishing—rowing—boil the water in our own kettle!—and—but you are not glad?"

"No; I'm going to stop at home. I intended yesterday to know my German exercise perfectly, *on purpose to please Mr. James.* I wrote out the most difficult part last night; but early this morning the housemaid used the paper to light the fire."

"Oh, ask him to let you off."

"I daren't — I should be ashamed."

"And I'm sure he wouldn't do so," said the other; "he would be glad enough to go without you; for how you tormented him last time!"

"Ah, Elder, you'll be beaten today," said several boys. And so he was: he was "beaten" thoroughly. When Mr. James heard Elder's story in the class, instead of saying to him that he must take the consequences of his carelessness, as we expected, he only answered—"Well, that was an accident! I do not think that my father will let you go until it is finished; but, if you will remain with me while the other boys get their breakfast, we will translate it together."

We all felt very glad, and looked at Elder, but he ran quickly out of the class to fetch something from his desk, and we could only see his back. I just heard him say some words with a very broken voice; but I forget what it was.

When Mr. James and Elder came down stairs in the middle of breakfast, two or three of us noticed that Elder's eyes were very red indeed; but what we noticed most, was the change in Elder himself. All day long—on the lake—in the woods—he seemed to be waiting on Mr. James. I never afterwards heard a word spoken against our "young teacher." We loved each other as much as ever, and we were a happy school.

P. Now, what "lesson" may we learn?

Ion. Learn *where to put injuries* when you get any—put them in the dust.

W. In the dust-hole, you should say.

L. And you may learn what people will do when they know that. *They will not bring you any.*

P. Yes, and mind that you *do* learn this, all of you. This is the way to be without enemies! People will say, "Oh, it's of no use to bring him injuries, he will not keep them—HE WRITES INJURIES IN THE DUST."

THE CLASS MAMMALS.

PRINCIPLES OF CLASSIFICATION (*Continued*).

M. Where did we stop in our Natural History last Tuesday?

W. We were finding out some reasons why the Mammals are so different from each other.

Ion. And one reason was—because they eat such different food.

L. Yes, and we found that—as they have to get it in different places, *the parts with which they get it* are different. Some, when they go and get their food have graspers to get it with—some have fins—some catch their food with claws—others have paws—while others have feet, *to walk* after their prey, such as the bear.

W. Ah, and there are some that only have to walk about:—they do not *seize* their food,—so, they have "hoofs."

Ion. They wear *shoes* you should say, because a hoof is a sort of box in which the animal's toes are all shut up.

M. But these different parts, hoofs—feet—paws—claws—&c., are only the parts with which they *catch* their food. There are other parts relating to their food.

Let us think about some old Lion. Shaggy fellow!—while the burning sun shines all day, he sleeps in the shady woods, but in time the evening comes. As the sun goes down, the lion wakes up to feed. What does he do first?

W. Shakes himself, I should think—

L. And yawns.

Ion. Then he goes and gets his food.

M. But he must do something before he can get it.

L. Yes, he must *find* it.

W. And something before he can find it—he must look for it.

Ion. So he has to search for his food, find it, catch it, kill it, and *eat* it.

M. And then—*digest* it. But he must have "organs" for all these purposes. So there are many parts of the animals relating to their food—the parts with which they search and find, catch, eat, and digest it; and as they have such very different food—

L. Then, all these parts must be different.

W. And now, mamma, if we are to arrange the mammals into orders, I think I know which parts we are to notice.

The parts with which they *find* their food,

The parts with which they *catch* their food,

The parts with which they *eat* their food, and

The parts with which they *digest* their food.

M. Yes. Let us see which are these parts. They search, and find their food—

W. With their eyes.

M. The lion, and many others do, but not all—the Mole under the ground, for instance.

L. It must find the insects by smelling and hearing them. The dogs hunt for their prey by smelling—did you never hear of the dogs hunting slaves by tracking their footsteps?

W. Yes, I have read about bloodhounds; and then the greyhounds, when they are hunting a hare, how they are puzzled if they get off the *scent.* So we may say that animals find their food with their senses, by seeing, smelling, and hearing?

M. And even by *feeling.* I have read somewhere that the BAT, when it flutters about in the dim twilight, can not only hear the sound in the air made by the flying of the insects, but, with its delicate wings, can even *feel the motion* in the air made by the wings of the insects; and thus, in the dark evenings, it finds its prey.

Ion. Ah, just as if *we* were put in a dark room, we should put out our hands to feel for the furniture.

W. Or, just as we search for our prey with our hands, when we are playing at "blind man's buff."

M. Yes; we may therefore say, *these Mammals differ in their* SENSES *with which they find their prey.* What comes next?

L. They next have to *catch* their prey; and, as they have such different food, of course they do not catch it in the same way; and, of course, must have differences in the parts for getting it.

M. True;—as we said before, they have graspers, fins, wings, claws, paws, feet, and hoofs. The DOG, who has *paws, runs* after the animals on the land and catches them with his teeth.

The CAT and the LION, who *steal* after the animals, and *spring* upon them, catch them with their claws.

W. Ah, ah! and I know an animal who gets his food with his *nose!*—puts it in his mouth with his nose! Think of God making an animal's nose so long that he can curl it round and put it in his mouth, and use it like a hand! We call his long nose his *trunk.* If ever you go in the Zoological Gardens and give him a piece of cake——

M. Or, if you see the wild elephant in the woods: he collects the young branches of the trees with his trunk, and gathers them up into a large mouthful. So, too, the cameleopard has a long neck to reach the high branches, and a long tongue to twist them into his mouth. It would not be so pleasant for him to get his food with his teeth—just to bite off a few leaves at a time.

W. No, mamma. The cameleopard is like the cow, who uses her tongue to twist the long grass into her mouth. I have seen cows do that.

M. Very well. So we will say, secondly, *Mammals differ in their* LIMBS *and other parts with which they get their food.* What is next?

L. I suppose we are to think of the parts with which they eat their food?

Ion. Well, when the lion has found an animal and caught it, he kills and eats it with his *teeth,* I suppose?

M. Yes, that is very likely. I don't know any other parts which would be so suitable; and here we have great differences still—the BAT that eats hard shelled insects, has *sharp-pointed* teeth. The animals that eat hard nuts, and other fruits of trees, have *rounded* teeth.

The LION has *long* teeth for ripping up the bodies of animals and killing them, while the COW, who does not kill other animals, has only teeth fit for cropping the grass, and *flat* teeth with which she can grind her food into very small pieces—so we will say, thirdly, *Mammals differ in their* TEETH, *with which they eat their food.*

W. And now, fourthly, mamma, the part with which they digest their food—that is, the stomach. Are their stomachs different?

M. Yes very. Vegetable food

is much harder to digest than animal food—so the Cow, for this and other reasons, has what we may call *four* stomachs, leading from one into another. The CAMEL, that travels in the hot dry deserts, has, besides his four stomachs, a bag to keep water in; and the LLAMA, that has to travel in the Andes, where it cannot get much water, has cells near its stomach in which it keeps a supply. On the other hand, the LION, eating flesh, has only a single stomach; and again, there are some monkies which have a stomach containing twelve or more different sacs.

So, we may say fourthly, *These Mammals differ in the* STOMACHS *with which they digest their food.*

We shall notice these different parts in Mammals very particularly as we proceed.

Ion. Because, I suppose, mamma, that these are the parts we are to notice when arranging them into *orders.*

M. Yes; these and some other parts. We will write them in the lesson, so that we may remember them.

Lesson 13. HOW TO DIVIDE THE CLASS MAMMALS INTO ORDERS.

1. *We find that the class Mammals contains many different animals which may be arranged in smaller classes called Orders.*

2. *As these animals eat different food, we find some of the greatest differences in the parts relating to their food.*

3. *When, therefore, we wish to arrange them in their different orders, we must notice these parts in particular, observing—*

1*st, The parts with which they* search and find *their food—viz., their* SENSES.

2*ndly, The parts with which they* get *their food—viz., their* LIMBS,* *et cetera.*

3*rdly, The parts with which they* kill and eat *their food—viz., their* TEETH. *And*

4*thly, The parts with which they* digest *their food—viz., the* STOMACH.

And when we have observed these parts, we must find the Mammals that are alike in these and in some other points—we must then place them together; and we shall thus arrange our class into SUB-CLASSES, *or* ORDERS.

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* Properly the *extremities* of the limbs.

THE SNOW-DROP;

OR, THE RESURRECTION OF THE BODY.

TELL, if thou canst, how yonder flower
To life and light has burst its way,
Though ten long months beneath the ground
Its snowy petals torpid lay.

Then will I teach thee how a child
From death's long slumber can awake,
And, to eternal life renewed,
His robe of heavenly beauty take.

While from the dust, each circling year,
The snow-drop lifts its humble head,
Say, shall I doubt God's equal power
To call me from my lowly bed?

THE NORMAN KINGDOM.

WILLIAM THE CONQUEROR
(Concluded.)

P. To-day we will make up our "lesson" on William's reign, and learn it.

L. I will write it, papa.

Lesson 11. WILLIAM I.

Began to reign . . . 1066
Died 1087

1. **William I.** *was the Duke of Normandy. He claimed the crown of England because it had been promised to him by Edward the Confessor, and by Harold.*

2. **Harold** *was elected King by the English; but William, being assisted by the Pope and the Norman barons, invaded England, killed Harold, and was proclaimed king.*

3. *William, at first, treated his new subjects with kindness; but, finding that they would not submit to him, he subdued them with much cruel war and bloodshed. He then divided their lands amongst his followers, and introduced* **THE FEUDAL SYSTEM,** *which brought the people into a state of slavery.*

4. *This system also gave too much power and riches to the king, whose income was* **TEN MILLION POUNDS A-YEAR.** *During William's reign, many attempts were made to overthrow him. The conquered* **Saxons** *rebelled many times; so also did the* **Barons:—Malcolm, Canute,** *and* **Odo,** *even his own son* **Robert,** *attacked him; but he kept his power until his death in the year* 1087.

5. *The writing of the* **Doomsday Book,** *the establishment of the* **Curfew Bell,** *and the return of the* **Jews** *to England, were events worthy of notice in this reign.*

L. Now, papa, shall we hear about William Rufus?

P. No; I think that with the death of William the Conqueror we will stop. We will not have any more history until next month. You shall have some of Mr. Young's *Geography* of England instead.

Tell me,—Which of the kings we have heard of do you like best?

L. Oh, I like **Alfred** best; because he lived to do good. His good laws, and the schools he built, show that he must have been a good king.

W. I liked, too, his dividing that loaf with the poor man—that was like Jesus Christ. And the manner in which he treated the Danes, when he conquered them, pleased me.

Ion. Yes; but I did not like his *making* them become Christians—because you know that he could not really make them love Jesus. Jesus never tried to *make* anybody follow Him. I daresay He thought Alfred was a rather "officious" disciple.

W. But then, Alfred was a Roman Catholic; perhaps that was the reason. I know that Catholics do *make* people become Christians. I'm sure that none of the apostles were Roman Catholics. What is a "Roman Catholic," papa?

Ion. I think *I* know—there's St. Paul's Epistle to the Romans, and——

P. Never mind now, who the Roman Catholics are. Which king do you like best after Alfred?

W. I like **Canute,** papa. It was such a good thing for him to make those "courtiers" look foolish; and to put his crown away.

L. That was not particularly good. I like **Athelstan** better, because he treated his enemies kindly, as Alfred did; and made that good law to encourage commerce.

Ion. Then, papa, I liked **Edward**, the son of Alfred. I think it was very good of him and his sister to take so much care of the people, and build walls round the towns and castles to protect them.

L. **Egbert**, too, must have been a good king—at least, I think so; because he made all the people obey him. At all events, he must have been very powerful.

W. And I liked that chief **Caractacus**, who was not afraid of **Cæsar**, and made him repent by speaking the plain truth to him.

P. And there were two men worth noticing who had much power over the people.

Ion. Yes: *Dunstan.* He had great power in the reigns of Edred, Edwy, Edgar, Edward the Martyr, and Ethelred.

W. And the other was the *Earl Godwin*, who had great power in the reign of Hardicanute and Edward the Confessor.

L. But there was a great difference between them: one gained power by his wickedness, and the other by his honesty.

P. Which do you like *least* of all these kings?

L. I like **Ethelred** least, the cowardly man who murdered the Danes.

Ion. I say "Ethelred," papa.

W. So do I. Ethelred and his mother Elfrida—they were a very bad pair.

P. Well, we will not stop to talk about the bad people. It is a good thing for men to have history written in books, that they may look back and see other people's characters. And we may think, too, how pleasant it is to be one of the good people, and for people to bless us after we are dead.

So, dear children, when you think of the good people, try to copy them. Think!—say to yourself, "I have a soul,"—"I have a mind,"—"I will not come into this world, and go out again, and *do nothing*—I'll try and do good to the world, as Alfred did." Think this thought; and think it every day when you get up in the morning, "I will ask God to do me good with *His* Spirit, then I'll try to do good with *my* spirit."

W. But, papa, I shall never be a king—I cannot do so much that people will put my name down in a history book!

P. Indeed, Willie, it *will* be put down in a history book. The history books written by men are very little things; but there is a great history book in heaven, written by the Great Almighty.

He does not forget anything. He says that *actions* are just the same, whether they come from children or *kings*.

So, once more, dear children, as you pass through this world, take care of your "history." It is all being written now; and perhaps you may, one day, read it. Mind, then, and let it be a *good* history; for you will either be called "good," or "bad," just as the kings we have been talking about.

Here are three thoughts for you about that history book.

First, I *must* be called good or bad.

Secondly, I *may* be called either.

Thirdly, *Which* shall I be?

Trust not yourself, but, your defects to know
Make use of every friend, of every foe. **Pope.**

THE KNIFE AND FORK

(Continued).

M. Well, Willie, I hope that you know now *how* to observe and describe the knife—so begin.

W. Yes; I observe that it has two parts—the *blade* and the *handle.*

Ion. And the *rivets,* Willie—three parts.

L. And there is a *stamp* on the blade—"shear steel"—four parts.

Ion. And the blade has a round thick piece at the beginning of it, where it is joined to the handle—what is that called?

M. That is called the *shoulder;* there is another part yet—

W. Yes; there is a long piece of iron running into the handle.

M. That is called the *tang.*

W. So that there are six parts—the blade, the handle, the rivets, the stamp, the shoulder, and the tang. And then we might count up the different parts of the blade, thus—the back, the edge, the sides, the end, the beginning, and—

Ion. The middle, you might say, and then the half-way toward the middle; then you might divide it into inches, and call each inch a part—the first inch, the second inch, and so on.

M. Yes, Ion, but you would only be observing its *length*—a property which the knife must have, as a matter of course. If you wish to make a description of the knife, you must observe those parts which belong to a knife *in particular*—the parts which make us call it "knife." I think I have told you so before.

W. I think you did say so, mamma. We are to make such an account that anybody might be able to imagine the knife, if he had never seen it.

Ion. Well, the first six parts were peculiar parts; now, let us find the peculiar qualities. The BLADE first. The blade is *bright.*

W. And the blade is *sharp.*

L. It is *long,* also, and *thin.*

Ada. And it is *flat.*

W. It is very *hard,* and *smooth,* too, and *cold,* and of a *greyish colour.*

Ada. The edge is *straight.*

Ion. Except at the top, Ada, there it is curved; and the *back,* too, is straight. We ought to notice these things to show that it is a *dinner*-knife; for, just look at my pocket knife—the large blade that I cut slate pencils with. Do you see it? The edge curves forward, and so does the back; it is quite *round-backed.*

Ada. Yes, it is something like a poll-parrot's beak.

L. And here is another quality—*it will rust in water.*

W. Before we describe the blade, if we want to write down its qualities properly, I'll tell you what we should do—*arrange* them!—put down the qualities that relate to its *shape* first, then those relating to its *colour* and *surface.*

Ion. The qualities which describe its shape are—

"long,"
"thin,"
"flat,"
"straight" (*at the back and edge*),
"curved" (*at the top*), and
"sharp."

W. You cannot say a "sharp" shape.

Ion. But you may say a *thin* shape.

W. Yes.

Ion. Then the word "sharp" here, means, "very thin." The men make the front sharp, by grinding it down to make it thinner, until it is very, *very* thin; so, if you may say a "very thin" shape, you may say "sharp shape."

W. Very well. The other qualities which we *saw*, were the qualities which told us its colour—

"*greyish*," and
"*bright*."

Ion. Is bright a *colour?*

L. No, I think that the word "bright" describes the *surface* of the knife, not the colour. It is bright, because its surface is so smooth.

W. Then that will not do, Lucy; "*bright*" does not describe the surface; it is the word *smooth* that describes it; the brightness is the *effect* of the surface. Oh, where shall we put the word *bright?*

L. I think we will leave it where it is. The quality which belongs to the surface is "*smooth*." What do the remaining three qualities describe?—"hard," "cold," "will rust in water."

W. Why, *hard* means that the particles are very close together; *cold* means that they have not much heat in them; and *rusty*, that means—that means—something. So these qualities relate to the *substance* of the knife. Now, we have four kinds of qualities—

qualities relating to the shape;
qualities relating to the colour;
qualities relating to the surface; and
qualities belonging to the substance.

Ion. Now, I'll try and describe the blade of this knife. "*It is a long, thin, flat piece of steel, curved at the top, but with a straight edge at the back, and a straight, sharp edge in front. It is hard, smooth, cold, and will rust in water; and it has a greyish and bright appearance.*"

M. You need not stop to describe the handle. Let us notice the *uses* of the knife.

W. Oh, the knife is used for *cutting*—that is all, and for *scraping*.

L. And for *spreading*—Jane cuts the bread, and spreads the butter with it. The doctors, too, spread their plasters with knives.

W. And there are many different sorts of knives. Let us count them. 1. *Carving*-knife. 2. *Dinner*-knife. 3. *Fruit*-knife (with a silver blade).

Ion. And, 4. *Pocket*-knife—like this one in my pocket. 5. *Pen*-knife.

M. You have forgotten the *Paper*-knife with a blunt edge.

L. And, 6. The *Palette*-knife, which the chemists and painters use for spreading with.

W. And a *Butcher's* knife.

Ion. *Oyster*-knife.

W. *Shoemaker's* knife.

L. And there is a *Cheese*-knife, which the cheesemongers use for cutting cheese—it has a straight back and a circular edge.

W. And a curious handle.

Ada. I've seen a *Beard*-knife—people cut off their beards with it.

L. She means a *Razor*—that is really a knife.

Ion. And I know another, the *Doctor's* knife. The surgeon had a knife when he vaccinated baby—a very small thin one.

M. That is called a *Lancet*.

W. That will make twelve different kinds, mamma! Please will you tell us the *history* of knives. When did men begin to use dinner-knives? Or what did they do before they had any knives?

M. Mankind, it seems, have never been without knives of some kind; even boys, the first time they save a sixpence, are very proud to buy a new knife. Amongst all rude people and savages you find knives, daggers, and spears, made sometimes of *shark's teeth*, or flint, or bone, or copper (the Roman knives and swords were made of a mixture of copper and tin called *bronze*); but in later times, knives were made of iron, and now of steel.

The New Zealanders' knives and other tools were once made of *bone.*

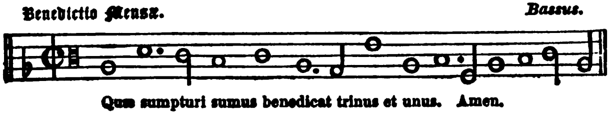
The ancient Egyptians often used *flint* knives.

At Pompeii, the buried city, swords have been found made of *bone.*

But in modern days the manufacture of knives has been brought to perfection.

The best English cutlery is made at a Yorkshire town called *Sheffield.* I know a gentleman who, when he was at Sheffield, saw a knife only an inch long. He was told to open some of the blades—and by the time he had opened all, he found that there were *seventy*, and all beautifully finished. He also saw a knife with *eighteen hundred and forty blades;* all of them had hinges and springs, and they all closed in one handle.

But the most interesting knife I know of, is a curious ancient knife, preserved in France; it is called "the musical knife," for on the blade these notes are engraved



The Latin inscription is what we call A GRACE BEFORE MEAT—it means, *The blessing of the table. What we are about to take may Trinity in Unity bless.*

It is likely that this knife was made in the sixteenth century—a time when almost every one in France used to sing. This music is only the bass part of the tune, so that there must have been perhaps *five* different knives to make the music perfect.

And that must have been a pleasant thing, I think—to have God's praises engraved on the very knife used for cutting the food he had given them.

Think! When it was time to "say grace," each person at the table would take up his knife, and sing to God. That was a *very* pleasant way to begin.

We will now make the lesson.

Lesson 12. THE KNIFE AND FORK.

1. A DINNER-KNIFE *is a sharp instrument, consisting of a handle and a blade.*

THE BLADE *is a long, thin, flat piece of steel, curved at the top, but with a straight edge at the back, and a straight, sharp edge in front. It is hard, smooth, cold, and will rust in water; and it has a greyish and bright appearance. It is fastened to the handle by a long piece of iron called a tang.*

THE HANDLE *is formed generally of wood or bone.*

2. *Knives are used for cutting, scraping, and spreading.*

3. *There are many sorts of knives, such as the carving-knife, dinner-knife, fruit-knife, pocket-knife, pen-knife, paper-knife, butcher's-knife, oyster-knife, shoemaker's-knife, cheese-knife, razor, and lancet.*

4. *Knives have been made of shark's teeth, flint, bone, copper, bronze, iron, and lastly,* STEEL—*with which metal they are brought to the highest perfection, especially at* SHEFFIELD, *in Yorkshire.*

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY.

P. Last week we finished the history of the Secondary Rocks—the beginning of the sixth day—when the creeping things, the giant reptiles, were the masters of the earth.

W. And the last rocks you spoke of were the Chalk Rocks, which make such great hills in the south of England, and such tall cliffs at Dover and Hastings.

P. These chalk deposits were in some places of immense thickness. To-day we shall talk of the next set of rocks—the Tertiary Rocks.

Ion. What does that mean, papa?

W. Why, that means *third* set.

Primary means first set;

Secondary means secondary set; and

Tertiary means third set.

P. In the sixth day the tertiary rocks, and the soils above them, were formed. At this time the earth must have been in a very rough state. I told you how it was all hot burning matter at first, and had taken all this long time to cool. The fire underneath, too, had begun to be quiet, but it left the marks of its work. There were not only the high mountains which it had raised up, but between the mountains there were great holes; you may call them "valleys," if you like, or "basins."

These hollow basins were famous places for the water to make new rocks in, and in these basins the tertiary rocks were formed.

Ion. And that was a very good thing, because they filled them up, and made the earth smoother.

P. Yes; and therefore the tertiary rocks are not spread over so wide a surface; they are only found here and there in basins.

At the south of England, near the river Thames, there is a great basin full of tertiary rocks, and on these rocks is built a large and splendid city, called LONDON.

Did you ever hear of it?

L. Oh, yes, papa.

P. So this basin is called *the London basin.* PARIS, too, is situated on a basin, which is called *the Paris basin.*

I have brought you some of the strata found in these basins. Here is a piece of the first great layer. Take it in your hand.

L. How soft it is! Is it clay, papa?

P. Yes.

L. But I have never seen such blue clay before, and I can easily make it into any shape. See!

W. So it is *plastic.* We learned that word in our lesson on clay. I shall call it the stratum of *blue plastic clay.*

P. That is its name. Here is a piece of one of the *next strata* in these basins.

L. This is quite white, like chalk.

P. And here is a yellow piece, and here is a grey piece. This stratum is formed principally of lime, just as chalk is; but we do not call it chalk, for it is rather different.

Ion. What is it called, papa?

P. It is called *gypsum.* Great quantities of it are found in the Paris basin; so it is sometimes called "plaster of Paris."

W. Oh, I know what that is; it is the stuff they use to make images with. What is above the plaster of Paris?

P. There are several layers; the principal is a layer of rock, which seems to be made of little grains of sand sticking together. It is called *sandstone.*

Ion. So that the principal layers of tertiary rocks are—the blue plastic clay, plaster of Paris, and sandstone. Pray what is above these, papa? *Fourthly* rocks?

P. No; after the tertiary strata we are very near the surface of the earth. It seems that soon after these rocks had been formed, there were many great deluges. Very violent deluges, too, they seem to have been. The rushing waters seem to have broken off great masses of rocks from the mountains, and even to have washed away great parts of the mountains themselves. These deluges must have been very violent; they knocked these pieces of rock together for a very long time, and rolled them backwards and forwards until they were quite rounded.

After the waters had passed away they left a sediment of clay full of these large stones, which we now call *boulders.*

W. Ah, I remember! You told us about those boulders in one of our old lessons.

P. So I did. And above the boulders is a layer of smaller stones—perhaps the chips which were broken off when the boulders were being rounded. There are some pits of this layer in the fields very near us. They are called gravel-pits.

Ion. To be sure—gravel is full of little stones.

P. This layer of gravel and sand was not formed by the sea—but was washed down from the earth by the rivers.

L. What are the names of these two strata?

P. It is hardly right to call them strata, as they are not spread over the earth in regular layers. We call them *accumulations.*

The accumulation of clay and boulders formed by the sea we call DILUVIUM—and

The accumulation of gravel, and sand—mud, and other odd things, washed down by the rivers is called ALLUVIUM.

Then, above the alluvium is the soil on the very surface—this you may remember consists chiefly of clay, flint, and lime, with decayed vegetable and animal substances. It is called *vegetable soil.*

W. Hurrah, papa! And now we have reached the surface again. I am so glad, for I can breathe much better—we have been such a long time poking underneath the ground.

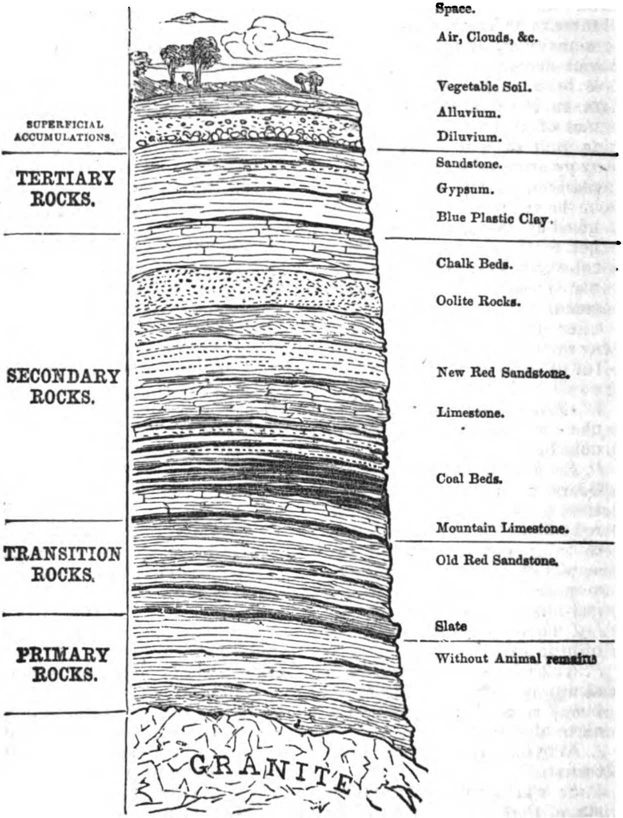
Ion. But the rocks were a much longer time in *being formed,* Willie.

P. Indeed they were. Oh, *how* long, none but the Great Maker can tell. From the time when the burning "mass of matter" began to cool, to the time when it was cold enough for man to live upon, immense periods passed away, too vast for us to reckon. To form the Primary, Secondary, Tertiary rocks, and the "accumulations," must have cost perhaps *many* hundreds of thousands of years.

L. And now, papa, that you have told us about the minerals, will you describe to us some of the vegetables and animals that lived then?

P. Not to-day. We might stop to talk of many more things, but there will not be time. Here is a rough drawing for you of some of the strata in their proper order. I must, however, remind you once more, that although they are found placed in this order, they do not lie above one another so regularly; some of the strata lie obliquely, and some—I think I said so before—are almost perpendicular. They seem to have been shaken by the fire into all manner of positions. I hope that you *want* to remember their names, and will have the good sense to learn them carefully. Next week, if you know them properly, we will talk about the vegetables and animals.

THE ORDER OF THE STRATA WHICH FORM THE CRUST OF THE EARTH.



PERSPECTIVE.

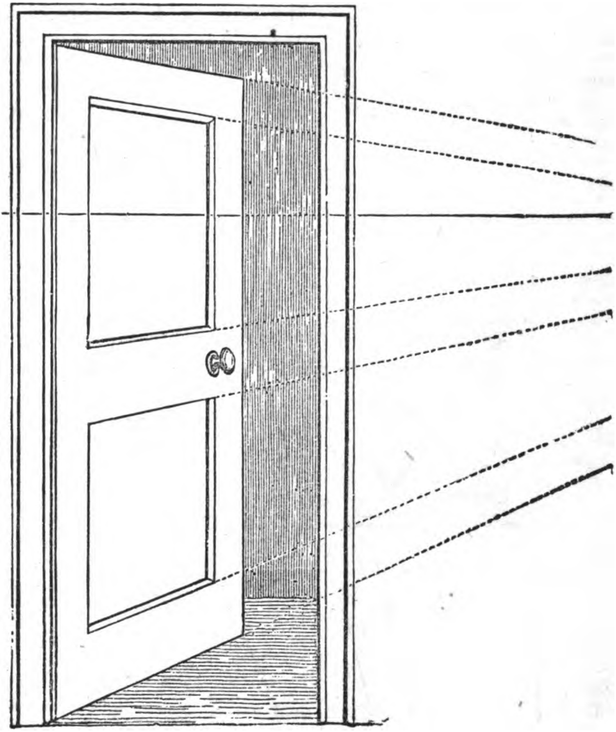
PRACTICAL EXERCISES.

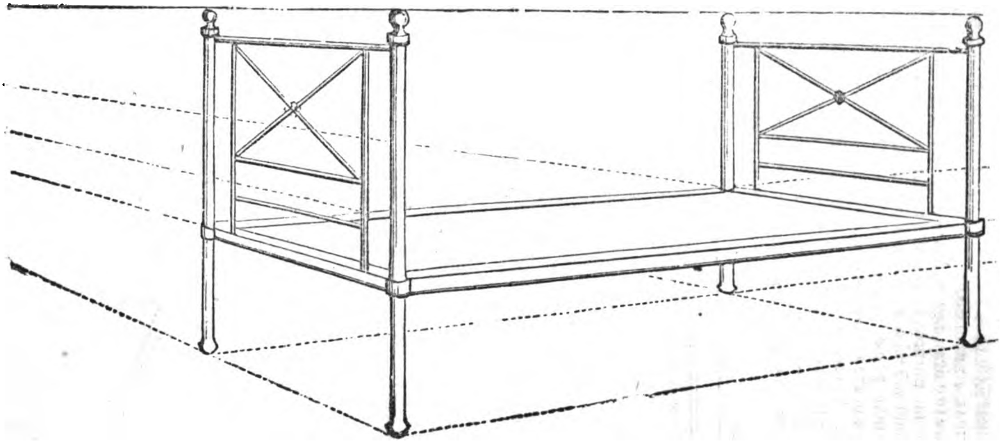
P. Here are two drawings, which I have made on purpose to afford you some good *practical exercises.* If you will take pains, you may thus make use of the principles you have learned. Therefore—

First, Copy these drawings.

Secondly, Make drawings from *the things themselves,* in the same positions.

Thirdly, Draw the objects in different positions. Go and stand by the side of the doorway, so that the framework of the door may be "in perspective," and the door itself opposite to your eye—then draw it. Again,—stand exactly opposite to the middle of the bed, so that each end may be at the same distance from your eye, and that the lines of both ends may incline to *a point of sight,* instead of a vanishing point.





PLEASANT PAGES

FOR THE

24th Week. MONDAY. Moral Lesson.

"Write injuries in dust, and kindnesses in marble."

P. Now for the second part of our proverb — "WRITE KINDNESSES IN MARBLE."

Do you know Mr. Maitland, who sometimes walks with me to the City in the morning?

L. Yes, papa; and Mr. Cross too, who wears a white hat.

W. I should like always to walk with Mr. Maitland, because he looks so happy:—poor Mr. Cross is always miserable.

P. I do not enjoy Mr. Cross's company. I asked him once why he always seemed so unhappy.

"Why, sir," he said, "you know my friend Mr. Ganeall—he acted very unfairly to me yesterday. Oh, it was very unfair!"—"Ah, sir," he said to me, shaking his head after I had heard the history, "ah, sir, I shall *never forget it.* No! it will always be on my mind."

I found, too, that there were many more things "on his mind." His next-door neighbour had offended him by not being polite; and he told me of five or six more friends who had vexed him—some of them a long time ago. Very often now I hear of some fresh injury which he has received—he is sure to remember it, and the old injuries also; so that these injuries, when he thinks of them, seem almost as bad as they were at first. They hurt him very much.

W. Oh, how silly, to let them hurt him after so long a time! He should have written them in the dust.

P. But Mr. Maitland and I have many a merry walk to town, and you would like to hear him talk.

L. Why, papa?

P. Because he has something good to say of every one. You should notice how he *begins* to talk of anybody—"Do you remember Wilson, who set that poor man up in business?"—"Do you remember James Good, who helped me to do my sums, and was punished for it?"—"Don't you know that clerk of mine, who speaks German so well?"—and I think, really, that he hardly remembers anything about people but their *good* actions.

"I'll tell you, sir," he said to me one day, "I'll tell you, sir, what God sends us friends for—just in the same way that he sends flowers for the bees, that they may get the pleasantness out of them. Whenever I get a new friend, I soon find out *one* good thing to remember him by; and then, when he does me another kindness, that makes *two* good things to remember. Again, if he says kind words to any other person, I remember them. So you see what I do with all my friends: I gather from them pleasant thoughts for my mind. Thus they make my mind happy."

Ion. Ah, he writes their kindnesses in marble!

P. And what a difference between the two men! One saves up in his mind all the kindnesses he gets, and the other saves up all the injuries he receives.

Ion. Then, papa, one reason why we should write kindnesses in marble is, because they make us feel more happy.

P. Yes, that is one reason. Let us find another. When I was a boy, I used to read in my "Sandford and Merton" a tale about a lion, which I will tell you, if I can remember it.

In some distant country where lions live, a poor slave who had been treated badly, ran away from his master. Hiding himself, and wandering about in the thick forests, his flesh torn by the thorns and brambles, and being worn out, hungry, and faint for want of food, he reached a cave, where he thought he would go to sleep and die.

He had not lain very long, before he heard a groaning noise, succeeded by a dreadful roar; and, starting up to escape, he saw coming towards him a great lion.

W. And then, he ran away?

P. He could not, for the lion was close to him; but he observed that the beast came with a gentle pace, and seemed disposed to be friendly. He looked at the slave in a beseeching manner, and, every now and then, making a sad grimace, he roared out "Oh!" and held up one of his paws, as if to demand assistance.

The slave, whose name was Androcles, was naturally courageous; he ventured to examine his paw, and finding it to be much swollen because of a large thorn in it, he extracted it for him. He thus gave great gladness to the lion, who showed his gratitude in many ways, and even kept Androcles alive by bringing him food to eat every day.

Some months after this, in a great city near this forest, there was to be held a dreadful spectacle. A slave, who had run away from his master, was sentenced to be torn in pieces by a furious lion, who had been kept several days without food to render him very hungry.

The day came, and thousands of cruel spectators were gathered round an open space, in the midst of which stood the one poor man who was to be killed. Presently a dreadful yell was heard, which struck the people with horror, and a monstrous lion rushed out of a den with erected mane, flaming eyes, and jaws like an open sepulchre. The people looked on with mournful silence, but how did they wonder to see that the lion, instead of eating the slave, looked up in his face, licked his hands, and crouched at his feet like a dog.

The slave was *Androcles!* and the lion was his old friend. The lion could have eaten him, for he was hungry; and yet he could not, for he was too grateful—*he had written his kindness in marble.*

Ion. Ah, that was very good; and that shows another reason for remembering kindness.

First, *The kindnesses give us pleasant thoughts;* and

Secondly, *They teach us to feel kind to others.*

P. True, Ion; and thirdly, They also *teach others to be kind;* for when Androcles told his story to the people, the governor of the town, who was present, thought—"Well, if a lion can spare his life, I can too—I will be kind." He did what the lion taught him: he gave Androcles his life and liberty, and gave him his dear friend to be his companion for the rest of his days.

MAMMALS.

ORDER 1. TWO-HANDED ANIMALS.

(*Bimana.*)

M. We may proceed to-day to divide the class Mammals into *orders.* We will have a lesson on one animal in each order. Here is the old list of Mammals.* Which of them do you think is the most important?

Ion. Mankind, mamma. They should be placed in the first order.

L. And papa is the most important person in that order—he is at the head of all mankind, and of all the Mammals; so, may we make a lesson about *him?*

M. Yes; for he is not only at the head of the Mammals, but of all animals and vegetables in the kingdom. But how will you begin your lesson?

W. We will first find out what it is that makes him a man; I mean, you know, what makes him so different from the other Mammals that we know he is a man.

L. That is a vulgar expression, Willie, to say, "I mean *you know;*" because perhaps we did *not* know what you meant.

W. Never mind. And when we examine him, we are to notice,

1st, His SENSES, with which he *finds* his food;

2nd, His LIMBS, with which he *gets* his food;

3rd, His TEETH, with which he *eats* his food; and,

4th, He will tell us about his *stomach,* with which he digests his food.

Papa. Oh!

W. Then, *may* we make a lesson about you, papa?

P. Yes, if you think I *am* one of mankind.

W. Thank you; then we will begin with your *senses.* How do you find your food, sir?

P. Sometimes by the sense of *hearing.* I hear the breakfast bell when I am in the garden, and I come in.

Sometimes, by the sense of smell, especially at dinner-time. I often smell it in the kitchen.

W. Oh, but this seems all nonsense. I don't think that we are going right.

M. No. You and your papa have taken the lesson in your own hands, and you certainly seem to want some assistance.

We said that, in dividing these Mammals into orders, we should notice *principally* the difference in their senses, limbs, teeth, and stomach. Why?

L. Because these parts relate to their food.

M. And why notice parts relating to their food?

L. Because they are the most important to these animals; they seem to live to eat.

M. Then, now you may see why you have been making mistakes; *your papa does not live to eat;* he only eats that he may be kept alive, and he lives for a much higher purpose. The animals that live for so low a purpose as eating, are called the lower animals, while mankind are a higher race of beings.

L. Yes, there is a great difference; mankind have minds, and can think.

Ion. And we have *immortal* spirits, too, souls that cannot die. That is a much greater difference than the differences in parts relating to our food.

M. That is true; then, as these distinctions relating to the mind are most important, we will begin with them first.

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The distinctions relating to your papa's mind we will call MENTAL DISTINCTIONS, and the distinctions relating to his body we will call PHYSICAL DISTINCTIONS. Suppose that you ask papa to talk to you about his mental distinctions.

P. Very well. Do you know what mamma means by *distinctions?*

W. Yes, papa; an account of the things which you have, and the lower animals have not. These things make such a difference in you, that they distinguish you from them; so when we give an account of them, we are said to make *distinctions*.

P. There is a difference between your dog *Fan* and me. Listen—

Fan has never heard what is the meaning of the word *burglar*, and she does not know the value of all the silver spoons, knives, and forks, teapot, mugs, and other things which your mamma has locked up in that cupboard; but she takes great care of them, and watches all night when we sleep. She would bark furiously in the night time if a man were in the front garden, and would fly at his throat while I came down stairs with my gun. But there is a great difference between Fan and me all this time, for Fan makes all this barking, and cannot tell *why* she does it. You know that I brought her in my pocket from the country when she was a puppy, and she has never seen a thief; so, as she could not have any reason for barking at the man, what made her do it?

L. We don't know, papa.

P. I will tell you. It was a certain feeling in her, a knowledge that the man had no business there, though she could not tell why. That feeling she never *learned* in our back garden. It was placed in her by God, and it is called INSTINCT.

W. How curious! — God made her to take care of the house, and then gave her the instinct to bark. That instinct is like a *quality*—a barking quality.

P. It is not more curious than many other things—she was never *taught* to eat. When she was a puppy, and you gave her some bread and milk, she felt hungry, and she began to eat. When she saw the man in the front garden, she felt angry, and began to bark.

L. And I suppose she did not know why she was hungry any more than why she was angry.

P. No. The feeling hunger, that made her eat, was an instinct, and the feeling anger, that made her bark, was also an *instinct*.

But when I came down stairs with my gun to look after the burglar, the case was very different: I had a *reason* for doing so. I knew that the man was a bad character, and that if I let him enter the house the effect would be that he would steal the plate.

W. We did learn to notice effects the other day.

P. Yes; you learned to do so before then, Willie—you have been noticing effects ever since you could speak. This power of noticing causes and effects is called *Reason*, and when I said to myself the effect of that fellow's coming will be the loss of my plate, I was reasoning about it. So I acted not from instinct, but from reason.

Ion. Ah, that was a great difference. Fan did not know why she attacked the burglar — she acted from INSTINCT. You did know why you attacked the burglar—you acted from REASON.

MAMMALS.

ORDER 1. TWO-HANDED ANIMALS.

(*Bimana.*)

P. As we are not to have any more History this year—to-day we will talk again about "Reason" and "Instinct."

When an animal acts quite from instinct without being helped by reason, it may make mistakes. For instance, before Ion was born, and when you were quite a baby, Willie, we had a very large yard dog—of the mastiff breed he was. Once he awoke us at half-past one in the morning, by making a deep and fierce barking, and when we looked out of the window, we saw him in the moon-light on the gravel path, pawing the ground, putting his nose close to the earth, and growling angrily—but when I went down stairs, I found that he was barking at a *policeman* who had come with his lantern to see if the house were quite safe.

M. That dog was as bad as another Mammal called the beaver. Beavers have an instinct which makes them build their own houses at a certain time of the year. If you keep a tame beaver in the house, when that certain time arrives, its instinct makes it build. It cannot see any trees in doors—it does not know why—so it collects together whatever articles it can find—the bootjack, stool, broom, boots, wash-hand basin, &c., in order to build a house with them.

L. That must be instinct guiding him; I am sure he cannot have any *reason* for doing so.

Ion. A bird, too, builds its nest every year—according to the same pattern, using twigs, moss, wool, hay, &c. And I suppose that if you asked her why those things were the best for the purpose, she would not know.

L. No, she has never *thought* about it. She just goes on as her instinct guides her, and "the nest of a swallow in the year 1850, is not any better than those that were built under the roof of Noah's ark."

P. Yes. And this shows us something else about instinct—*you cannot improve it.* Whatever God causes the animals to do by instinct, is done so perfectly, that it does not need alteration—although the animals do not know much about it.

W. Then, after all, it is *God* who performs the actions so perfectly. You see, He makes the animals do it, all the time,—so that a bird's-nest is really God's work.

Ion. I see how it is—when a bird builds her nest, she is *something* like my pen—it writes well because I make it do so—for the pen does not know anything about it. But does not *reason* make us do things perfectly?

P. Let us see. When man builds his nest, at first he makes a plain *wigwam* with branches of trees—then a clay hut—then a whitewashed cottage—then a brick house—then men learn to build large stone mansions and palaces.

W. Ah, he keeps on improving, until he does the thing perfectly, but I suppose that he would not learn to do right all at once.

P. No. Man has to get *experience* before he can do anything properly. Only the great God has enough experience to make things perfect at once. *Instinct* is perfect, but man's *reason* is imperfect.

Which would you rather have in you to make you act?

L. I would rather have reason

still, papa—because then I know what I am about. I would not act like Ion's pen.

W. Yes; all the actions that we make are *our own*.

P. Ah! that is very true, indeed, Willie! Its a very solemn truth! Indeed, our actions are "our own." If we do wrong, we cannot say, "We did it from *instinct*,"or "*God* made us do it;"—so remember! that as we know why we act, we *shall have to give an account to* GOD. We are not only reasonable, but "accountable" beings;—our Maker will question us about all our actions, and will say *why* did you do so and so? This we will talk about soon.

As we proceed, we shall also find that even mankind perform many actions from instinct; while the lower animals, again, have some degree of reason.

Now let us write down our first mental distinction—

1st, *Man may be distinguished from the lower animals, because he acts principally from a power within him called* REASON.

TO A BEE.

THOU wert out betimes, thou busy, busy bee!
When abroad I took my early way,
Before the cow from her resting-place
Had risen up and left her trace
On the meadow with dew so grey,
I saw thee, thou busy, busy bee!

Thou wert alive, thou busy, busy bee;
When the crowd in their sleep were dead;
Thou wert abroad in the freshest hour,
When the sweetest odour comes from the flower;
Man will not learn to leave his bed,
And be wise and copy thee, thou busy, busy bee!

Thou wert working late, thou busy, busy bee!
After the fall of the cistus flower;
When the evening primrose was ready to burst;
I heard thee last, as I saw thee first;
In the silence of the evening hour,
I heard thee, thou busy, busy bee!

Thou art a miser, thou busy, busy bee!
Late and early at employ;
Still on thy golden stores intent,
Thy summer in heaping and hoarding is spent
What thy winter will never enjoy;
Wise lesson this for me, thou busy, busy bee!

Little dost thou think, thou busy, busy bee!
What is the end of thy toil;
When the latest flowers of the ivy are gone,
And all thy work for the year is done,
Thy master comes for the spoil;—
Woe then for thee, thou busy, busy bee!

SOUTHEY.

THE PLATE, AND BREAKFAST-CUP.

M. The next object for a lesson will be *the plate.* I think we will take your papa's *breakfast-cup* at the same time, and will then compare them. How do you *compare* objects?

Ion. By looking at them, to see in what they are alike.

W. And to see also in what they differ.

M. Very well; then compare the plate and the tea-cup—tell me if they are at all alike.

W. Yes; they are both *crockery-ware.*

Ion. And they both have a *pattern*—they are "patterned."

M. That is not the right word, Ion. You should say "they are *figured.*"

Ion. Yes, they are *figured,* and they both have a stand to stand upon—a round stand—turn them upside down and you will see.

L. That is right; and they both have a round *edge*—look at the top of the cup and the edge of the plate.

M. You had better say a *circular* edge.

W. Yes; because any one might think it was round, *like your head,* and that is "spherical."

Ion. "Globular," you might say; for people call "globular" or "spherical" things *round,* and they call "circular" things *round.*

L. I will tell you a great many more things in which they are alike. They are both of *a white and blue colour, hard, smooth, cold, bright, brittle, pulverable, inanimate, inodorous,* and *tasteless.* There!

W. And now you have left out something—they are both *useful.*

L. Yes.

Ion. And something else—they are both *glazed,* and water cannot penetrate through them—they are *impenetrable.*

L. Now, let us see why they *differ.*

W. They differ in shape; the cup is a half sphere, it is *deep,* or *hollow*—I should think that that is the proper word to use.

M. The proper word for such a shape as the inside of the cup is *concave.* I will explain this word to you another day.

Ion. Yes, Willie; if you said "hollow," any one might think it was like your *pop-gun*—that is hollow.

L. Then, here is the first difference—the cup is *concave,* and the plate is *flat.*

Ion. Not quite flat; because, if you notice this part outside where you put the salt, it is higher than the broad flat piece where you put your meat.

Ada. That piece is called the *rim.*

L. Then that makes a second difference: the plate has a *rim,* and the cup has not; but, if you look at the cup again, it has something which you do not find in the plate.

W. Yes, it has a *handle.* Are there any more differences, mamma?

M. Yes, I think we might find several others; but perhaps you have mentioned sufficient.

W. Now, I will compare the two.

The Plate *and the* Breakfast-cup *are alike, because they both are made of crockery-ware—are figured—have a circular stand—a circular edge—and are of a white and blue colour; they are both hard, smooth, cold, bright, brittle, pulverable, inanimate, inodorous, and tasteless; they are both glazed, impenetrable, and useful.*

They differ, because—

The CUP is *concave*, and has a *handle*.	The PLATE is *flat*, and has a *rim*.

Ion. Of course. The plate requires a rim *because* it is flat.

W. And the cup does not need a rim, *because* it is concave.

L. And here is something else. The cup is all the better for the *handle*, because it is concave.

Now, mamma, may we have the history of the cup and plate?

Ion. Is there anything *interesting* in their history, mamma?

M. To be sure there is. You cannot take up anything on the table without finding something interesting relating to it; for do you not remember my telling you that man is always making *improvements*. Why is that?

L. You said it was because his "reason" is not perfect; he has to find out things, and get *experience*.

M. So, whenever we look at any object which man has made, this is the way that it becomes interesting. Think to yourself—"Men have been in this world about eight thousand years—and all this time they have been *making improvements*—so it is not likely that they made such good plates as this one at the beginning."

W. I see what we are to do, mamma,—think about the "olden times;" they must have had very different plates at different times, and have kept on making them better and better.

Ion. So we are to ask ourselves this—"What sort of plates had mankind in the *first* thousand years?—what sort of plates in the *second* thousand years?—what sort of plates in the *third* thousand?"—and so on. Perhaps at first they had no plates at all.

M. Yes, that 's the way to make a history; but I am afraid that I cannot go so far back as that. Well! let me see what I can tell you.

I can tell you, first, that nearly all mankind have, naturally, the habit of observing; and that as clay is a part of the earth, they would soon observe the quality you noticed in your Physical Geography lesson.

L. Do you mean the quality *plastic*, mamma?

M. Yes. They would notice that clay, when it was moist, could easily be moulded. The sun would help them to find, 2ndly, that if exposed to heat, the articles they moulded would become hard; and "experience" would teach them, 3rdly, that when hardened, these things were very durable, and made good vessels, &c.

These things could not escape their notice long, especially as they would want such articles; so it is very likely that articles resembling cups and plates were made in the very earliest ages. The manufacture of such articles is called the *Pottery* Manufacture.

Ion. Did *Adam* have a cup?

Ada. And a saucer?

M. That I cannot tell you. The Bible does not say. I cannot say anything of the pottery before the flood. I can only begin with the EGYPTIANS, one of the most ancient nations. It is known that long before the time of Joseph, the Egyptians had pottery manufactures—and used a *wheel* to make their vessels upon, similar to that which we use now. You may find the words "potter's wheel" and "pottery" in many parts of the Bible.

There are in Eastern lands the ruins of an ancient city called *Thebes*, and in the tombs there are representations of all the processes of making "crockery-ware." On these tombs you may see pictures of men mixing the clay, shaping it, baking it, and polishing the vessels. The *rich* people of Egypt had not only drinking-cups made of *glazed* pottery, but of hard stone, alabaster, glass, ivory, bone, porcelain (or *China*, as you call it), bronze, silver, and gold.

After the Egyptians we find that the GREEKS were distinguished for their pottery. They learned much from the Egyptians, but as they had far better taste, they made great improvements — the next time you go the British Museum, you may see a beautiful Grecian *vase* called the "Portland Vase."

After the Greeks the most celebrated pottery makers were the ETRUSCANS, a people famous in Italy, before the Romans.

Then came the ROMANS. Remains of Roman pottery have been found in nearly all the countries which they conquered and lived in. In England, especially, people have dug up old Roman cups, vases, urns, lamps, wine-vessels, and different pots and pans. Let me read you a curious extract from Mr. Knight's *Pictorial Gallery of Arts*:—

"In sinking pits for various purposes, remains of Roman potteries have occasionally been discovered there at a considerable depth below the surface. Governor Pownall relates that in his time (1778) the men employed in fishing at the back of Margate Sands, in the Queen's Channel, frequently drew up in their nets some coarse and rudely-formed earthen vessels; and that it was common to find such pans in the cottages of these fishermen. It was for some time believed that a Roman trading-vessel, freighted with pottery, had been wrecked here; but on more particularly examining the spot, called by the fishermen Pudding-pan Sand, some Roman bricks were also discovered, cemented together, so as to prove that they had formed part of some building. Further researches showed that in Ptolemy's second book of Geography, an island was designated as existing in the immediate vicinity. Such pans as were recovered in a sound state were of coarse materials and rude workmanship—many having very neatly impressed upon them the name of Attilianus; but fragments of a finer and more fragile description of pottery were likewise brought to the surface; and little doubt remains that during the time of the Roman ascendancy in England, a pottery was established here upon an island which has long since disappeared, and that the person whose name has been thus singularly preserved was engaged in its management."

The people of PERU and MEXICO have also made good specimens of pottery, but the most famous people of all are the CHINESE, whose "porcelain" we will talk about next week.

W. But are you not going tell us mamma *how* crockeryware is made?

M. Not to-day—next week.

Go to the bee! and thence bring home
(Worth all the treasures of her comb)
An antidote against rash strife;
She, when her angry flight she wings,
But once, and at her peril, *stings*;
But *gathers honey—all her life*.

BISHOP.

THE TRAVELLER THROUGH ENGLAND.

DURHAM (*Concluded*).

YORKSHIRE.

MY DEAR CHILDREN,—

I did not tell you, in my last letter, the name of the town where I rested. It is called STOCKTON. Before I left there I made these notes, which I send for you to *commit to memory.*

DURHAM.

(Shape)—*The shape of Durham is something like that of a vine leaf.*

(Boundaries)—*It is bounded on the* north *by Northumberland; on the* south *by Yorkshire; on the* east *by the North Sea; and on the* west *by Cumberland.*

(Soil)—*Very much of this county belongs to the Bishop of Durham. The soil is noted for its mustard.*

(Rivers)—*The principal river is the* WEAR. *The county is divided from Northumberland by the* TYNE, *and from Yorkshire by the* TEES.

(Capital)—*The capital is* DURHAM, *situated on the Wear. It is so called from the two Saxon words* dun, *a hill, and* holme, *an island. It is noted for its ancient cathedral, with its rich bishopric, its university, and its beautiful position. In the neighbourhood is* NEVILLE'S CROSS, *where Queen Philippa defeated David king of Scotland, and made him prisoner.*

The other large towns are—GATESHEAD, *noted for its grindstones;* SOUTH SHIELDS, *with a trade in coals;* SUNDERLAND, *with a shipbuilding trade; and* STOCKTON *on the Tees, noted for its manufacture of rope and sailcloth.*

Old Sol was hard at work when I left Durham for Yorkshire. Indeed, he ought to work hard on the Yorkshire coast, especially in November time, to keep folks alive. Oh! how the wind blew from that *Northern Sea!* No sooner had our quiet friend above cheered the trees with his rosy light, and made the Yorkshire fields and hills look fresh and glad, and had warmed the air, and made me feel comfortable in his good-natured way, when, whew! and across the sea came a gust of fresh wind, which. sent the warm air to the right about, and with its damp salt breath, made poor Peg and I all clammy and cold.

Clammy and cold! yes, and I think that those winds know each other, and make *cold-blooded* conspiracies against poor travellers on the Yorkshire coast; for other winds quickly followed—frantic fellows from far-away places—and they beat about in such a manner, that though old Sol was very steady and determined, yet I think that they had the best of it.

And I am sure that Peg thought so. She seemed to say to herself, "The sooner we get away from this the better; so, I'll not stop until we reach *Whitby*, and get some dinner." Dinner! dinner! that was Peg's watchword, and away she went. I think that when the winds saw us, they must have given us up, for they had no chance of catching her.

"*Yorkshire*," that was my word. I am going to see Yorkshire.

W. He had begun by *feeling* it.

I thought to myself I have often wanted to see this county. I'll take out my pocket atlas, and notice its size. I had heard that it is the largest county in England, but really I did not expect to find it was so very large. Why, dear children, if you measure from the south-east corner, *Spurnhead,* to the north-west corner, it is a distance of 124 miles; indeed, it occupies *one-ninth* of the whole space in England.

Ion. What is one-ninth?

W. Ah! you have not learned "fractions" yet. One-ninth means one of the parts you would mark out, if you divided England into nine pieces all of the same size.

L. Yes, when you cut anything into nine parts, those parts must be called *ninths.*

I saw, too, in my map, that YORKSHIRE is bounded on the *north* by Durham; on the *south* by four counties; on the *east* by the North Sea; and on the *west* by Westmoreland and Lancashire.

Mind, dear children, that you get *your* map, to notice the boundaries, and learn them. *I* was learning them, and indeed *had learned* them; I knew the names of "the four counties," and was going to look for the "etymology" of York, when Peg looked up to tell me—"Here's Whitby!" and gave a loud neigh, a sort of a laugh, as much to say, "It worn't so much amiss—did it in two hours and five minutes—I deserves an extra feed of corn."

W. Well, *I* think that she deserved it, and she ought to have had it too.

Whitby is a seaport town. The river *Esk* runs through it, dividing it so that the two parts are connected by a draw-bridge. This draw-bridge is built so as to allow ships to pass. I had noticed the cliffs on the shore as I was coming, but I was more surprised to see that the church here was built on the top of a cliff. I could just see it, and the ruins of Whitby Abbey, from the window of the inn where we stopped.

"I think I'll go and see that church," I said to the landlord.

"I don't think ce will, sir."

"Why not?"

"'Cause of the steps, sir. It be hard work; there be 190 *stone steps* to it."

"Oh!—then, I'll remain here; but really it looks curious on so high a cliff; and that old ruin, too, the abbey!

"Ees, sir, it be 240 feet above the sea."

I asked the landlord some questions before going to bed, and I found that Whitby was once famous for shipbuilding, more so than it is now. He told me, too, that near here a celebrated man was born, who sailed round the world twice. His name was Captain Cook.

The next morning Peg started for *Scarborough.* It was still very windy, and I noticed more cliffs—some higher than those at the *north* of Whitby. Indeed there were cliffs and rocks along nearly the whole of the coast of Yorkshire. I was just looking at one place, where the water runs far into the land (such a place, you know, is called *a bay*), when I saw a man with a little girl.

"Good morning, friend!" I said, "what is the name of this bay?"

"*Robin Hood bay,* sir; it be a dangerous place."

"Why is it called *Robin Hood* bay?"

"I do'ant know, sir."

"Thank you. Good morning."

I soon after met an old market woman; so I asked her, "Why do they call that bay which I have passed *Robin Hood* bay?"

"I don't know, sir."

"Oh! Good morning, ma'am."

Well, I thought I should like to know; so, just then, I saw two great boys—almost men—going up a pathway on one of the hills, and I called out to them to stop.

"Halloa, you boys! Hoy! Stop, I want you! I'll give you a shilling if you can tell me why that bay is called *Robin Hood* bay?"

"Wha—a—at, zur?"

"If you will tell me *why* that place is called Robin Hood bay, I'll give you a shilling."

But, oh dear!—they opened their eyes very wide, and one of them grinning, grunted, "Eee-ee-e!" and, as he looked up at me, he whispered to himself, "Yew *be a rumm un'*—yew are!"

And so, dear children, I could not find out; and I don't know now, why the place is so called. Peg, too, was much annoyed at this, and impatient: perhaps she felt her old enemy, *the wind*, coming, for she would not stop. After pawing the ground, away she went toward the south without being told; and, as the old winds behind tried again to catch her, and seemed, from the distance, to sing in her ears "Make haste!" she trotted on hastily, until we reached *Scarborough*—a distance of seventeen miles.

Peg, I suppose, did not like the Yorkshire coast—for she did not wish to stop here, and would hardly eat her dinner.

"What is this place noted for?" I said to the ostler. "You seem to have many visitors."

"Ees, sir; they come here to bathe in the sea, and to take the *mineral waters* for medicine. Look yonder, sir, and you'll see what our *trade* is. Look at all them fishing smacks! and look at the *shipping*, sir. There's where our trade lie.

"And I'll show e'e, sir, if you look further, why our port is so large. Look, sir, at that 'ere high piece of cliff which stretches far out in the sea, and then bends round in such a curious manner. That is a famous place to shelter the ships! When the stormy winds do blow, and when ships be very often driven 'gainst them rocks and smashed—then's the time for them to put in here, and 'drop anchor' on this side of the cliff, which do shelter them, poor things! We call that ere place *the harbour*, sir."

"Ah," I said, "it is a good thing that you have a harbour here—there is one also at Whitby. Good morning."

As we went onwards, I stopped Peg, and looked back at Scarborough on its rocky height; and I made this note to myself in my own mind:—

SCARBOROUGH *is a large seaport, on an eminence. It is noted for its harbour and shipping, also, for its sea-bathing and mineral waters."*

We went on until late in the afternoon, and then stopped to look at a beautiful bright range of chalk cliffs. They had a most brilliant white appearance, standing up in the dark sea to the height of 300 feet, and stretching out nearly six miles.

Ion. Ah, they formed a *promontory*. You know that it says in our geography book—"a high piece of land stretching far out into the sea is called a promontory."

L. Yes. Look at it, here is the promontory on the map, it is called Flamborough Head. Let us hear what the letter says.

This beautiful promontory is called FLAMBOROUGH HEAD. It is surmounted by a lighthouse with a revolving light, which can be seen from a ship at nearly thirty miles distance. This lighthouse is very necessary and important, for in the thirty-six years before the year in which it was built, there were no less than *a hundred and seventy-four wrecks* in the neighbourhood. It is thought that the name *Flamborough* is derived from the practice in ancient times of placing a flaming torch on it, in dark nights, to warn the ships from danger.

There is another promontory at the south of Yorkshire in the very corner of it, it is called *Spurnhead*. I did not visit it, but you may see where it is, if you look on your map.

W. Yes. Here it is, with rather a curly shape—it forms a *tail* to the county. It is Yorkshire's curly tail.

As I was riding about near the coast, I saw two men filling a cart with sea-weed from the beach. There had been ten farmers' carts there during the day, and I found that whenever there has been any strong wind, or storm, the farmers' men collect the sea-weed (which they call *wreck*) and use it as a manure. It makes excellent soil for turnips.

We rested at the village of Flamborough for the night, and on the third day we started across the country, to visit a large town called HULL.

We now travelled very gently and lazily towards the south—jogging along at ease—stopping here and there to notice a field of beans, or buckwheat, besides the potato-fields, and the fields of carrots, and Swedish turnips, which are grown for the cattle and sheep in the winter.

So it happened, that what with noticing the Dutch-looking cattle on the marshes, and the sheep in the rich pasture-lands, I had forgotten all about Hull, when just at four o'clock in the afternoon, as I was in a brown study, imagining queer thoughts, Peg neighed as if she had just seen an old friend, and I felt a glow of warm light coming in my face.

We had suddenly turned a corner of the road, and, oh, it was a pleasant thing, for it had been a grey day all along (you know what *grey days* are?—those days when the sky is all one sober colour, and the morning and afternoon are all the same, and even boys and girls have sober steady thoughts). It was a pleasant thing, I said, just in the darkening of the day, when the thick November air came round about with its dampness, and made all distant things look shadowy and large,—then, it was pleasant to see one's old friend *Sol* again.

Yes, after he had been away all day, there he was before me, with a large red face, looking very hot, and tired, and angry, as though he had been toiling like a slave in some far away place, or had been trying all day to get through the thick clouds.

There was old Sol, far away, behind a crowd of masts and sails, and ropes of ships; and the thick forest of masts, which, in the dimness, looked like slim giants; and the river Humber beyond; and the salt-water breeze, and the smell of tobacco and tar; and the men with shiny hats and shaggy coats; all seemed to say to me—"Here you are, sir—here's HULL!"

BY ignorance is crime increased;
Those most assume who know the least.—GAY.

THE TRAVELLER THROUGH ENGLAND.

YORKSHIRE.

Dear Children,—

Waiter!

Yes, sir.

Tell the ostler, when he rubs down my horse, to look at her fore leg—the left one; for she sprained it a few weeks ago, and I'm afraid it is rather weak.

Yes, sir.

And—here, *waiter*, stop.

Yes, sir.

Let me have something to eat as soon as you can; and tell the Boots to bring me my slippers.

Yes, sir.

And so, dear children, when "Waiter" had pulled down the blinds, and left the room, I turned my face round to the fire, put one of my feet on each hob, poked up the blazing coals, and thought to myself, "How comfortable it is to sit and rest in the coffee-room of an inn, after riding all day!"

"Whose statue is that which I saw in the street?" I asked the waiter, when he returned.

"The statue of *Wilberforce*, sir: he was the Member of Parliament for this town."

"Ah, indeed; he was a great philanthropist."

"Don't know anything about that, sir; but he was *a very good man*. You know, sir, the time when the English people had slaves, and nobody thought there was any harm in slavery. Well—

"Yes, I know all about Wilberforce," I said; and, dear children, I would stop to write you his history, but your papa will tell it to you, if you have not heard it before.

In the course of the evening I met with some merry Yorkshire gentlemen from Leeds. One of them had come to Hull to see about some cloth which was to be exported.

"So you want to hear about the *soil* of Yorkshire, sir, do ye?" he said to me.

"Yes," I said, "and the history of any remarkable places on the *surface*."

"Very well. I have lived in these parts for nearly forty-five years; and you shall hear all that I know. The whole county, sir, has three great divisions called 'Ridings.'

"The eastern side of Yorkshire is very cold, and rocky near shore, but in some parts there are many cattle, and sheep."

"I have been travelling along those parts for these three days," said I.

"Then, I dare say you have found out that yourself, sir. Now, if you will get out your map, sir, I will show you something. You see this river which rises (or begins) at the north. It flows, you see, through the middle of the county into the river Humber."

"Yes, I see it; it is called the *Ouse*."

"And you may notice, sir, that where it falls into the Humber there is the mouth of another river called the *Trent*. Well, sir, if you and your horse were to start at the 'source' of the Ouse, and travel along the banks of that river and the *Trent*, you would travel through a very great and extensive valley, the largest in England.

"This valley contains very fertile land, with rich corn-fields, and pasture, and fields of blue flax, most beautiful to see.

"So much for the middle and

the east of Yorkshire—but on the western side—there, sir, you will see a hilly district again. Beautiful lines of grey and blue hills rising one above another until they join the clouds; rich hills in front clothed with thick verdure; and then pasture-land, and rivers, with cattle and sheep in the foreground. The monks, in the olden times, delighted in these parts, for you find here and there the splendid old abbeys with long rows of arches, and tall Gothic windows. You would like, sir, to see Bolton Abbey, Rivaulx Abbey, and Kirkstall Abbey, where you may hear the story of 'Mary the maid of the inn.'

"Just let me trouble you to look at your map once more. Here you see, on the western boundary, is the northern range of mountains. Do you observe how they continue from Nothumberland running between Yorkshire and Lancashire?

"They end here, sir—at Derbyshire—with a tall mountain called 'the Peak.' This range is sometimes called *the backbone of England.*

"It will take too much time," he said, "to describe all the soil of Yorkshire. You had better, sir—for I see you are making notes—put it down in this way. In the *east* there is rocky and marshy soil.

"In the *middle* there is a fertile valley with corn and flax.

"In the *west* there is grand and romantic scenery, with ruins of old abbeys.

"You had better also mention the rivers now, for if you look at your map—"

"Yes, I have just been noticing," I said. "Here is the fine, broad river HUMBER at the south; the large river *Ouse* flows into it, and several other rivers, which are also large, are tributaries to this one."

Ion. What is a *tributary?*

W. I can tell you. It is a river that pays tribute to another one. You know how all the nations once paid tribute to the great nation—the *Romans.* Well, just so the rivers pay tribute with their waters to the great water—the *sea.* The sea is the father of waters.

Ion. Ah, of course, the rivers must flow somewhere.

"Thus, the HUMBER has one large tributary called the *Ouse*, while the Ouse, also, has six large tributaries: 1st, it receives the waters of the *Nid;* 2ndly, the waters of the *Wharfe;* 3rdly, the *Derwent;* 4thly, the *Ayre* and the *Calder;* and, 5thly, the *Don.*

"On the map, sir," said my Yorkshire friend, "they look like the veins of a great leaf. Suppose Yorkshire to be the leaf; the Humber and the Ouse are the mid-rib, and their tributaries are the veins, spreading all over the county. Then, many little streams flow into them, just like the very small veins."

"Thank you," I said. "Now that we have talked of the *soil* of Yorkshire, and of the *rivers*, will you tell me of some of the remarkable places on the surface; but, dear me, what *is* the time by your watch, sir?"

"Why, it is half-past nine."

"And here comes the waiter. Waiter!"

"Yes, sir."

"Supper, please, as soon as possible."

"Waiter!" said my friend, after supper.

"Yes, sir."

"A glass of brandy and water, and a couple of cigars. Do you smoke, sir?"

"Thank you, no," I said; and I was going to tell him that smoking and drinking brandy and water were not proper things for a man to do, when I thought—"No, I want to hear about the *surface* of Yorkshire!"

"Ah!" exclaimed he, as we turned round to the fire again, "those *kings* were strange fellows, some of them; we have had many bad kings, as well as good ones. I wonder what the old stones in England would testify if they could tell tales.

"Not a very great distance from my town, *Leeds*, there is old *Pontefract Castle*—Pomfret Castle, as it is called.

There are some sad tales hanging about those walls. I have read how one weak king, Richard II., was shut up there, for a long time, by his cousin Henry IV., who had taken away his crown; and because he would not die, he caused him to be *killed with a pole-axe.* Oh, horrible! and that was done by a *king*, too!

"And then, again, there was a good man called Earl Rivers. He was taken to this castle and *beheaded*, at a few hours' notice. This was done by the wretched King Richard III., just because he wanted to commit *more* murder. He wished to murder the young Prince Edward and his brother, so as to become king himself, and he therefore first killed the Earl Rivers, that he might not prevent his wickedness.

"If you look at the map, sir, and notice the West Riding again, you will see not only *Pontefract* Castle, but *Wakefield* Green and *Towton;* then, above them—just here, sir—near the capital, is a place called *Marston Moor.*

"At Towton and Wakefield were fought the most bloody battles in the *York* and *Lancaster* wars, which you read of in history. These places were dyed with the blood of Englishmen; fathers slew their own sons, brothers slew brothers, and Englishmen slew Englishmen by thousands, so that those places were dyed with English blood.

"And you know why they did all this?

"Just because there was a difference in their opinions. This was the accident that happened to them. One-half of the people had 'judgments' which told them that such a person ought to be king; and the other half, when they exercised their judgments, could not think in the same way. *They* thought that some one else ought to be king; and so, they thought they must kill the others."

"And that is what they called 'reasoning,'" I said. "You may read, sir, in 'Pleasant Pages,' that 'man is a *superior animal*, because he acts principally from reason, instead of instinct.'"

"Well, sir, the Editor of those 'Pleasant Pages' may write what he likes, but I'm not obliged to believe it. What! when man does a thing which most of the lower animals would be ashamed to do! But let me go on, sir; it is getting late.

"At *Marston Moor*, there was another great battle between the army of King *Charles I.* and his parliament.

"*Richmond Castle*, too, was—hiccup—hic—."

The fact is, dear children, my worthy friend had been drinking brandy and water all this time, which has given him the hiccup, and made him rather sleepy. The fire, too, had made *me* feel sleepy. The candles, too, were burning with long wicks; so we bid each other "Good night," and went to bed.—Good Night! H. Y.

PLEASANT PAGES

FOR THE

25th Week. MONDAY. Moral Lesson.

MAMMALS.*

ORDER 1. TWO-HANDED ANIMALS.

(*Bimana.*)

M. Papa was telling us last week of the mental distinctions between him and the lower animals. The first is—

L. That he acts principally from Reason, mamma.

M. That is right. Now, ask papa to tell you something else.

P. It was once a very common idea that reason belongs only to man, and not to the lower animals; but it has since been observed that this is a mistake.

Many animals can reason; they can notice *effects*, as you did in our Object lesson on Coffee,† and can remember them, even better than children.

I have read of an elephant who had a deep abscess in his back, which was so bad that the Indians were obliged to send for a surgeon to cut it open. When the surgeon came, the beast knelt down with his keeper standing at his head, and seemed quite conscious that the operation was for his good, for he never flinched, but merely uttered a few low suppressed groans. The Indians were so confident that he would behave as he did, that they never thought of tying him.

Your uncle's Newfoundland dog, "Hector," goes out with him for a walk every week-day—but, when Sunday comes, and the bells ring, he looks out from his kennel——he sees your uncle put on his gloves and hat, but never attempts to follow him. He will not even come if you try to persuade him—so sure is he that it is Sunday.

W. But when the bells ring on the week-day, papa?

P. He does not attend to them. So you see that he must know the Sunday, not only by the sound of the bells, but *by counting the days.* The bells will sometimes ring three times in the week.

I have read also of two dogs who could play at dominoes; and I have heard of a horse, who, when his drunken master fell off, lay down beside him, until help arrived—but *would not allow him to be placed on his back again.*

Ion. Ah, he had reasoned that while he was tipsy, he could not sit steadily.

P. An elephant in Exeter 'Change, was once endeavouring to reach a potato with his trunk, but was unable. He then reasoned with himself, and gave the potato such a hard puff, that it struck against the wall, and rebounded close to the bars of his cage.

Again,—a swallow built its nest near to some slate quarries in Wales; but was much disturbed by the noise of the explosions made to break off the large masses of slate. It noticed that before each explosion a bell was rung to warn the workmen, so in time it learned to fly away directly this happened—

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* Two Natural History lessons are given this week, that the history of the order Bimana may end in the first volume.

† Page 153.

for it had reasoned that an explosion would be sure to follow? This was noticed, and was often shown to visitors by ringing the bell when there was to be *no* explosion. At last this trick was discovered by the bird, and then it would not leave its nest until it saw that the ringing of the bell was followed by the moving away of the workmen.

But the most reasonable animal that I have *seen*, is the dog belonging to the gentleman next door. You may take him miles away from home, yet he will return by himself. We have been several times to the railway at Vauxhall lately, and have left the dog to go home by himself. This dog, in order to save trouble, has actually learned to return alone *by steam-boat.* How he must reason to know which boat is going to London! He always chooses the right boat, and takes care not to land, until he reaches Blackfriars Bridge.

W. Does he never go into the wrong boat, papa?

P. Never.

L. But how can he tell that a boat is going to London and not to Chelsea? He must know the head of the boat from the stern.

P. No doubt; he reasons with himself, for you see that he knows which is the nearest bridge to stop at.

I could tell you a great many more cases to show how the lower animals reason. The power of reasoning is, to some extent, found in most of the vertebrated animals—the Mammals, birds, reptiles, and fishes—but not in the lower sub-kingdoms.

Again, mankind perform many actions from instinct. When they are little babies, they act almost entirely from instinct; but as they grow up, this power of reasoning becomes very much stronger, so that man is called *a superior animal.*

L. But will you tell me, papa, how much reason a lower animal may have?

P. I cannot say exactly—but few of them, I should think, have much more than Ada has, or any other little child.

W. I should like you, papa, to tell us what man's reasoning powers are—will you, please?

P. I will just allude to them for you—but there is not time to give you much more than their names. You must have them explained to you fully another time.

The mind of man has not only *reasoning* powers, but other powers which he uses every day. Hear how I used my mind the other day when I bought a new *hat!*

The hatter brought me a hat marked 17s. 6d.

I took it in my hand—used my *sense* of sight to look at the outside, the inside, its colour, its glossiness, and its shape, until at last my mind knew all about it—

W. Yes. One of your senses—your eyes—*told* all this to your mind.

P. And when my mind had used that sense so as to know all about the hat, it gained what is called a *perception* of it.

The perception I had of the hat did not make me like it. Now, my mind had had a perception two days before of a friend's hat which had been bought at the same shop.

So I stopped a minute. I recollected my perception of the gentleman's hat; and I brought it before my mind's eye, that I might see it again, and describe it to the hatter. My mind was then making a *conception.*

Ion. Yes, a conception of that gentleman's hat; and, papa, when you had kept that perception of it for more than two days, or remembered it, as we say, you used another power, called the *memory*.

P. That *is* another power. So that I had then used my powers of perception, memory, and conception. And now, instead of saying anything to the hatter about this gentleman's hat, I began to look both at the conception in my mind, and the new hat—thinking first of one and then the other, to see whether they were much alike. Thus I was exercising my power of *comparison*.

When I had compared them carefully, I then called on another power of my mind to come and decide which really was the better hat. This power is called the *judgment*.

Ion. Ah, that is because it judged, I suppose.

P. True; and my judgment had just told me that it was not a good hat, when the hatter said, "Here, sir—here is a new kind of hat; it is made of cloth—it is A PARIS HAT!"

L. And did your mind get a perception of that?

P. Yes—but then I wanted to know how I would appear in a cloth hat; but as I had never seen myself in such a hat—had never had any *perception* of myself with that hat on—I could not make any such *conception* of myself.

W. What did you do, papa?

P. Why, I exercised another power of my mind—I pictured myself going along the streets with a cloth hat—made an image of myself in my mind, such as it had never been before. This power which forms images in our minds of things which we have not seen before, is called *Imagination*.

I did not like the image of myself and the cloth hat, so I said to the man, "No, I will take the other one."

W. Then you used *six* parts of your mind in buying that hat. The power of forming a perception—a conception—the memory—comparison—judgment—and the imagination.

P. Ah, and when I left the shop I exercised another power, for I *reasoned* with myself, and said, "Articles which are marked *cheap* are generally common and dear. The hat I have just bought was marked *cheap*—therefore I think that it is dear."

Ion. I see, papa, you found out a "reason" for thinking it was dear. That shows that you were reasoning.

P. Yes, and I then said this to myself, "The hats which I saw are cheap and common; I think that all the hats in the shop are common." When I was thus making a rule about the hats in general, my mind was *generalizing*. But there is no more time to talk about these powers of your mind. It would cost us two lessons more to explain them all properly. We will just write out their names, and perhaps one day you will understand them better.

W. I will make the list, papa. The mind of man has powers for

PERCEIVING,
CONCEIVING,
REMEMBERING (*memory*),
IMAGINING,
COMPARING,
JUDGING,
REASONING, and
GENERALIZING.

Have the lower animals any of these powers?

P. Yes, most of them, although they are not so perfect. But some animals can remember *better* than mankind.

L. I have read, papa, of a gentleman who lost his way in a strange place, where he had not been for twelve years, so he threw the reins on the back of his horse, who had travelled with him in that road before, and the horse remembered every step of the way.

P. And if you think of the first faculty mentioned in the list--*perceiving*, you will find that many of the lower animals are more clever than man in perceiving. We talked of the dogs being able to track other animals, by perceiving the scent of their footsteps. When the hunters in Switzerland try to catch the chamois, they dare not travel the direction in which the wind blows, for the animals would instantly smell them.

L. And the white bear, papa. I have heard that if sailors leave on the ice any hot walrus which they may have been cooking, he can smell it at the distance of *thirty miles*.

P. They can also perceive *sounds* with more exactness. In our old school at Islington, we had a dog called "Punch," whose kennel was behind the trees, at some distance from the front gate. In the dark winter nights, when any stranger came in at the gate, if he walked three or four steps up the passage, Punch would bark; but whenever *I* entered, he was silent.

W. I suppose that he knew you by the sound of your footsteps.

P. Yes, and what a wonderful ear he must have had, when he was such a long way off, to tell the exact difference between my footsteps and the stranger's.

The truth is, that Punch and many other animals have more perfect senses than mankind. Many of them can see, hear, and feel better; therefore they have greater power of perceiving.

L. Now, let us think of the next power. Can they conceive?

P. No, I think not. I think they have very little, perhaps not any, power of conceiving, of imagining, or of generalizing.

Ion. But they can compare and judge a little. If you give puss a piece of bread or a piece of meat —or a basin of milk and a basin of water—she will soon judge.

W. Now, papa, please let me make a list of the differences between man and the lower animals. I will write out his MENTAL DISTINCTIONS.

MAN is above the lower animals, because he has a much greater power of *thinking or reasoning.*

He has not always a greater power of perceiving or remembering, but he has more power of

Conceiving,
Imagining,
Comparing,
Judging, and
Generalizing;

he also has *Language*, which is a more perfect power of speech than that of the animals.

P. Yes, Willie, this is all very good; but we have left out the greatest distinction, after all. He has these higher powers, *because he wants them.* These lower animals are only formed for this lower world, but man *belongs to two worlds!* There's a difference for you! the end of his existence in this world is only just the beginning of his life—a being who is going to a higher world must have higher powers.

Think, Willie, you are one of mankind. You are not a body—an animal—you are an *immortal soul!* When your body dies, perhaps you will linger a little while, and watch it as it is shut up in the grave. Very gladly, perhaps, you will do that; and then, with the "ministering spirits" who wait for you, you will fly to meet "Our Father," who first sent you here.

W. And will send *for* me.

P. Yes. And He will say to you —"I gave you all these powers, and placed you above these animals, that you might serve me. I made you only 'a little lower than the angels,' that you might live up here and love me, as they do."

Perhaps He will remind you —"An animal can perceive the grass in the fields, mountains, rivers, the warm sun, and the sky; but he cannot reason, or know that there must be *a God* to have made him."

"An animal cannot read my Word, nor love Jesus Christ. But thou, immortal soul! hast greater powers. They were given to thee in that world to exercise, that they might grow and be prepared for use in this world."

So, Willie, as the great God will *certainly* talk to you one day, would you like to hear what He says to you now? He says, "Come, *pray* to me; ask me, and ye shall even receive *my Spirit*. My Spirit shall breathe on all your powers, and ye shall have a SPIRITUAL MIND:

"A PERCEPTION, which shall perceive my glory in all good things:

"A CONCEPTION, so as to put all thy perceptions before thy mind, and conceive something of my wondrous greatness:

"A MEMORY, to remember my daily mercies:

"An IMAGINATION, to imagine 'the height and depth, and length and breadth, of the love of Jesus:'

"A COMPARISON, that thou mayest compare the littleness of the world below, with the vastness of the world above:

"A JUDGMENT, to think of all thy actions, and judge whether they are right or wrong:

"A REASON, which shall think of cause and effect, and tell thee that *because* of these wonderful works, working together for good, there must be a Spirit of goodness, a *great* GOD. And lastly:

"A LANGUAGE, that when thou art able to perceive, conceive, imagine, and remember these things, thou mayest tell them to all the world; singing, 'Glory to God in the highest, peace on earth, and good-will towards men.'"

Willie, Lucy, Ion, and Ada, God will one day ask you all, "*Where are thy ten talents?*" Do you want to hear him say, "Enter into the joy of thy Lord?"—Yes! Then go pray for this *spiritual mind*, and you will have it. Then will your "distinctions" from the lower animals be very great; for "*to be spiritually-minded* is LIFE ETERNAL."

A VERY little satisfies
An honest and a grateful heart;
And who would more than will suffice,
Does covet more than is his part.

If happiness has not her seat
And centre in the breast,
We may be wise, or rich, or great,
But never can be blest.

BURNS.

MAMMALS.

ORDER 1. TWO-HANDED ANIMALS.
(Bimana.)

M. Yesterday we thought about the MENTAL DISTINCTIONS of mankind. To-day we will notice his PHYSICAL DISTINCTIONS.

L. You mean by that, mamma, *bodily* distinctions,—the differences in papa's body, do you not?

M. Yes. Look at your papa again, and tell me how you distinguish him from the lower animals.

L. I notice, mamma, that he stands upright, and holds up his head.

W. "Holds up his head *like a man*," you should say,—that is what he was taught when he was a baby; and I notice that he wears Wellington boots, which—

P. That is rather foolish, Willie. You should remember that you are to notice only my body itself—the boots are no part of my body.

Ion. I notice, papa, that you have only two legs.

L. I notice that you have two hands.

Ada. I notice that papa is not covered all over with thick hair, only on his head and face.

L. And I notice, papa, that your head is upright, and *very large.* I suppose it is because you have more brain.

P. That is true. Now, as *you*, too, have more brain than the lower animals, and many other great mental distinctions, shall I tell you what you may do with them?

Ion. Please, papa.

P. Make use of them *now.* Find out the reason of your physical distinctions—find out *why* you have such differences in your body.

Ion. I should like to do that, papa.

P. I will first tell you something. You have, perhaps, most of your physical distinctions *because* you have such mental distinctions. Do you understand that?

Ion. Yes; you mean, papa, that they are given us in consequence of our mental distinctions—they are "*effects.*"

P. True; let us now trace some of these effects. Man's mind is able to think very many thoughts. Man thinks, "I will make myself clothes—I will build houses—I will dig the ground, and plant trees and flowers—I will write letters," and so on. Thus, as he thinks many thoughts, he wants—

W. To *do* many things

P. Yes. Then suppose that with all these thoughts in his head, God had made him to walk on all four of his limbs, like a cow or a dog.

W. Then he would be obliged to do what he wanted with his *mouth*, as the dog does.

Ion. I see something, papa—an "effect." Because man has a mind, he cannot spare all his limbs to walk with; so he uses two for walking and the other two for working: and—at the ends of his limbs, he has not feet, but *hands* to work with.

P. Do not say the *ends* of his limbs; we call the ends of the limbs "*extremities.*" These extremities, with their fingers and thumbs, have a most surprising power of motion. See me move my hand, wrist, and fingers. How easily every joint moves. Man's mind thinks of a beautiful little machine called a watch—his hands can make the watch; they can play the piano, and can perform many other difficult actions, light work and heavy work too: think of some of these actions yourself. Perhaps your hand can make as many different motions as the mind's different thoughts.

L. Ah, it is the mind's servant. Then I will say the first reason of our physical distinctions.

First, *Man has more mind than the lower animals; therefore he uses only one pair of limbs for walking, and the other for working. At the extremities of his fore limbs are hands, instruments with a wonderful power of motion to perform different actions for the mind. Thus, mankind,* as the first order of Mammals, *are called* TWO-HANDED ANIMALS.

W. And that is fair. One pair is quite enough to carry my body, because my mind is more important. The hind limbs are servants to our body, and the fore limbs are servants to my mind; but then the *birds* only walk on two legs.

Ion. Yes, I thought of that; but still, they use all four limbs for carrying their bodies—their legs for the earth, and their wings for the air. They live in different places, you see.

W. Ah!

P. Let us go on to the second distinction.

The second distinction is an "*effect*" of the first one. Suppose that man, having to walk on two limbs, were made with his body placed horizontally, so ——!

He could not walk very *far*—no! if he walk on two legs, he must be *upright*. People have said that the upright posture is not always natural to man. They have said that man may use his fore limbs for walking, and have told strange tales of wild men in the woods who walked on all fours — they were apes, probably. Just try how *you* would like it, Willie.

W. It is not comfortable, papa, I'm afraid I shall fall. You see, my eyes look down on the ground.

P. Then you see the reason for the second distinction. *In consequence* of your having only two legs, the best position for your body is *an upright one.*

Ion. Men, papa, must walk on their hands and knees if they want to go on all fours—because, I was noticing Willie's legs just now—they are much longer than his arms.

P. Yes, this shows that man was always intended to have an upright posture. It is another proof of our second distinction.

Let us repeat:—

Man has more mind than the lower animals.

Therefore, he uses only his hind limbs for walking, which are longer than his fore limbs.

Therefore, secondly, HE HAS AN UPRIGHT POSTURE.

We will finish this lesson next week.

Cowards are cruel, but the brave
Love mercy, and delight to save.

GAY.

THE TRAVELLER THROUGH ENGLAND.

HULL. YORK.

Dear Children,—

I had often heard that Hull was a famous place for shipping; and, if you look on your map, you will soon see why it is so.

You may see that ships can sail to it from many different parts. A ship may come into the Humber from the river *Ouse*, or from the large river *Trent*, or from the *Derwent*, or from any of the rivers flowing into the Ouse; and, as there are many towns on these rivers, the ships bring goods and manufactures from them.

W. Yes; and if you will come here, and look at the map of the world, I will show you something that our teacher told us at school. A great many ships sail into the Humber from other countries—from the east of Europe—from Sweden, and Denmark, and Russia; and the ships that come from the cold northern seas, laden with oil which the sailors get from the whales there, when they come to England, it is so much easier to sail up the Humber and call at Hull, instead of going all the way to London. But let us hear what Mr. Young says.

L. Yes: listen—

Ships also come from countries which are at the north and east of England, bringing oil, timber, flax, hemp, and other things, because Hull is the nearest port. Canals, also, and now railways, bring goods from all parts to be "exported;" so that Hull is called THE GREAT EASTERN PORT OF ENGLAND.

I cannot tell you of all I saw at Hull—the great church, the statue of Wilberforce, and the large new streets—the new docks, too!—the famous docks, which are almost the largest in England—to write you a description of their splendid warehouses and long quays, covered with all kinds of goods, would require, oh, a very large sheet of paper! As I was standing near the water, I saw a steamer coming in from London, which was called the *Wilberforce;* and there was a smaller steamer alongside, which was to start for York at twelve o'clock.

So I returned home quickly, and at exactly a quarter to twelve Mrs. Peg and I took our places for York on board the boat *Ebor*. We had a delightful trip up the river Ouse, for the *Ebor* was not a very fast boat; so we were able to notice the old ruin at Howden, and Selby, and many pretty places.

It was getting late in the afternoon, when I, who had been walking backwards and forwards on the deck for a long time, sat down to have some talk with myself, and to think of the City of York. "Fine old city!" I began—"dear old city! I have read thy ancient name in many a history book. Old city, where the Romans built idol temples, when thou wert called *Eboracum!* Old city, where now the finest cathedral in England stands! Great city, once the capital of the north, how I long to see thy old walls and gates!"

So I took out my guide-book to read. I found that the city, in the time of the Romans, was called *Eboracum*, and that, even in the present day, the Archbishop of York signs his name *Ebor*.

W. And the steamer was called *Ebor*, too!

But, in the Saxon times, its name was changed. The Saxon name for the river Ouse was *Ure*, and the Saxon word for "village" was *Wic*, and, as it was one of the Ouse villages or towns, it was called "*Ure-wic.*"

If you repeat that name very quickly, it will sound like *Yurek;* and, if you say it quickly several times, you will find yourself saying YORK—the word which people say now.

York, like Carlisle and Westmoreland, has been the scene of many a battle. York was the stronghold of the Saxon nobles who resisted *William the Conqueror.* Your papa has, I believe, told you in his history lessons, how this city and all the country round about, was destroyed by William.

I have told you in one of my letters, of *Edward I.* who tried to conquer the Scots. During seven years he fixed his head-quarters here. Both *Edward II.* and *Edward III.*, when they marched against the Scots, also made this city their head-quarters. *Queen Philippa*, Edward's wife, when, as you have heard, she conquered the Scotch king David, at *Neville's Cross*, received him as prisoner in York Castle.

But in the time of the civil war between *Charles I.* and his Parliament, there were many dreadful scenes in this city. At one time the suburbs (that means the houses built around the city) were all burned by the army of the Parliament. Great batteries were built for destroying the walls and gates, but the place was kept by the king until after the battle of *Marston Moor* (the place which my Yorkshire friend at Hull spoke of). Then the royalists were defeated, and obliged to flee.

EASE HER!

What's that?

STOP HER!

What? And as I shut my book, and jumped on my feet, I saw before me the ancient city. The sun had left us, but, standing athwart the dim red sky, I saw the two tall western towers, and the heavy lantern tower of the cathedral, or "minster," the castle, and below, part of the walls and the bridge over the Ouse.

I slept that night at the house of an aunt of mine who lives here, and the next day we took a walk to see the city. I saw the castle, which is now a new building—the barracks—and the soldiers exercising. I walked round part of the old walls, for a very great part of them is still standing, saw the four ancient *bars* or gateways—and was shown the places where, a long time ago, our barbarous ancestors used to expose the heads of their prisoners, and of criminals who had been executed.

If you have ever been to London, you may have seen a bar something like these called *Temple Bar*. One of the bars in York was called *Micklegate Bar*—another, a very old "picturesque" place, was called *Walmgate*. There were some remains of an old abbey, called *St. Mary's Abbey*, which were also picturesque—but, oh, the most picturesque, the *grand* sight was the Minster! You shall hear about it in my next letter.

Your faithful friend,
HENRY YOUNG.

W. Papa. What *does* he mean by "picturesque?"

P. It means really—"fit for a picture;" old buildings, trees, and many natural objects are picturesque. You shall understand that word better another day.

THE PLATE AND BREAKFAST-CUP

(Concluded).

M. What nations were famous for "pottery?"

Ion. I remember them, mamma. The *Egyptians*, *Greeks*, *Rom*— no, *Etruscans*, *Romans*, *Peruvians* and *Mexicans*, and the *Chinese*.

W. And I suppose that the *English* come next.

M. Yes—to-day we will talk of the English pottery; but you must understand that earthenware plates and cups have only lately been generally used in England. In the olden time *wooden* plates (some of them curiously carved) and bowls, and spoons, were used; pewter plates also were much used; even last month I saw in the kitchen of a farm, a bright row of pewter plates.

Ion. Well, they would not *break*, that is one good thing.

M. And as for cups—our ancestors' cups and jugs were made of horn and leather. I have seen many an old drinking-horn, and a *black-jack* made of leather for holding the beer,

W. And now we are going back to the old times again, for I have seen jugs, bowls, and cups made of *gutta percha.*

Ion. Yes; papa says that everything is to be made of gutta percha now. He bought baby a gutta percha *bib* yesterday, and a gutta percha *apron* for mamma.

W. They can't make gutta percha *meat*—that would be a failure.

M. Come, let us proceed with the lesson—"English earthenware."

Here is the map of England—the two counties we shall notice are this one, *Staffordshire*, and this one below it, *Worcestershire.* If you travel to the north of the first county until you reach this town, *Newcastle-under-Lyne*, you will then be at the beginning of a district ten miles long, called "the Staffordshire potteries." This district is divided into many villages or towns, such as *Bruslem*, *Etruria*, and others—but really the rows of houses are so near to each other that the towns seem to be all joined together, and they form one long street.

You would soon distinguish the manufactories from the dwelling-houses by "the large, lofty, dark-coloured buildings, of a shape something like a sugar-loaf or a bee-hive." These buildings contain the kilns where the earthenware is baked—they are called *hovels*.

You would next notice, perhaps, the *Grand Trunk Canal*, opened about seventy years ago, for the purpose of conveying the goods to the two northern ports—*Hull* and *Liverpool*, but this was before the time of the railways. And again, you may observe on the banks of the canal, and around the buildings, 1st, Heaps of *flints*, which have been brought in barges from Gravesend, &c.; 2ndly, Clays and stones from Dorsetshire, Devonshire, and Cornwall; 3rdly, Coarser clay from another part of Staffordshire, to make baking cases for the earthenware; 4thly, Plaster-of-Paris to make moulds for the different shapes; and 5thly, Heaps of coals for the baking fires.

Now, let us see what is done with these things. The flints are taken to a kiln and burned until they are quite white; they then break more easily, and are tak to a flint mill, where they are broken into a coarse powder by a machine with heavy hammers, called stampers. The powdered flint is then mixed with water, and with some of the Dorsetshire clay. It is next ground in a number of mills, each of which grinds it finer than it was before, and strains it through a fine silk sieve. After a time the powdered flint and clay become so fine, that, with the water, they form a thick smooth paste like cream, which is called *slip*.

This slip is heated until the water evaporates, so that it becomes stiff again like dough. It is then passed on to the *throwing-room*, where men shape it into plates, cups, dishes, &c., upon a wheel called the "throwing wheel." You could not, by any description, well understand how quickly and well these men work; you must *see* them do it.

These articles, when made, are in a soft state; they are then called "*green ware.*"

The green ware is placed in cases of the shape of a drum, and carried to "the biscuit kiln," where it is baked until it is very dry and crisp. It is then called "*biscuit ware.*"

The biscuit ware must next be coloured. Look, Willie, at your blue plate. Plates could not be bought so cheap if each one had to be painted. See how much work there is on the surface.

W. How is it done, mamma?

M. It is taken to a woman who knows how to do it. In the next room to hers is a man printing patterns for blue plates on thin paper, from a copperplate press. Directly he has printed a pattern she takes it from him, and turns it over with the printed surface on the plate. After fixing it on to the edge and middle of the plate, she takes a round-headed rubber and rubs it violently; then, as the "biscuit ware" is absorbent, the rubbing makes it absorb the wet ink from the paper.

The plate is then passed over to a younger girl, who dips it in cold water, rubs off the paper, and finds that the pattern on the paper has been *transferred* to the plate's surface.

After being sent to a kiln, for the oil to be dried out of the ink, the plate is then glazed with a preparation of salt, and is ready for use.

Ion. Ah, mamma, it would not be so useful without the glazing.

M. No, the plates could not be washed so well. The use of salt was discovered accidentally. A servant in the pottery neighbourhood, who was boiling in an earthen pot some very strong brine for salting pork, happened to leave it on the fire for a few minutes. When she returned, she found that great part of it had boiled over the vessel, and covered it with a hard shining substance, which, when it was cold, she could not rub off; and a potter to whom it was shown immediately saw its great use.

At one time, only brown and coarse red earthenware was made at Staffordshire. The improvements which have been made are owing to the discovery of the use of flints, which was also accidental, and to the great skill of a gentleman named *Wedgewood.*

The finer kinds of earthenware are called *porcelain*, or *China*, much of which is made at Worcester. We will have a lesson on "China" some other day.

THE CRUST OF THE EARTH.

SKETCH OF GEOLOGY (*Concluded*).

P. We will now talk of the vegetables and animals that lived during the rest of the sixth day.

From the time when the secondary rocks were made, to the beginning of the tertiary rocks, a very long period seems to have elapsed—great *ages* of time—how many thousands of years I cannot tell.

During these years, the "troublesome times" when the reptiles reigned had changed; the fire, as I said, was less restless; the earth was more cool and still.

And now, quite *a new order of things* began; all the old reptiles seem to have died. Indeed, hardly one species of animal living on the land, or in the water, was left when the new animals came.

Here they come—GREAT MAMMALS! But let us look at the world they were coming to. Oh! how different!

And how different the climate! The greater part of the land had risen above the deep sea, and was rising still. Now, in the *middle* of the world, when land rises, the climate becomes hotter; but in the *northern and southern parts*, the "effect" is exactly contrary—it becomes colder.

It is very likely that about the middle of this sixth day, the north of Europe was covered with fields of ice, just as part of North America is now.

As the climate changed, so, of course, the vegetables and animals changed too. Instead of the long grasses and ferns, there were trees, such as we see on the earth in the present day; trees with flowers and fruits; beautiful flowering plants, and plants such as Mammals and Man require for food.

In the *basins* of the earth, which I spoke of, there were now many large lakes, surrounded by thick foliage.

Notwithstanding the ice, the world was still too warm a place for boys to live in; but if, Willie, you could have been there, and have just peeped through the foliage, you might have seen one of the new *Mammals!*

W. What was he like, papa?

P. Get your natural history book, and look for the picture of the tapir.

You see that it is something like the hog, with a long snout. It is even *longer*, like that of the elephant. Like the hog and the elephant, it belonged to the order of "thick-skinned animals," or, as we say, the *Pachyderms.* It lived in a harmless, quiet way, by the margin of the lakes, feeding, like a proper thick-skinned animal, on herbage, and sometimes going into the water to wash itself.

It would take too much time to describe to you a hundredth part of the new animals. In the period when the gypsum (or plaster-of-Paris) was being formed, the earth was becoming a busy place. In the gypsum of the Paris basin, men have found the bones of many pachyderms, and even flesh-eating animals, like the wolf and the fox;—birds, like the owl, woodcock, and pelican;—new reptiles, and new fishes.

In the period after that of the gypsum formation, there were still more pachyderms—some most gigantic animals, resembling the tapir, rhinoceros, horse, and hog. There were also, a kind of cat, nearly as large as the lion, and animals like the dog and the bear.

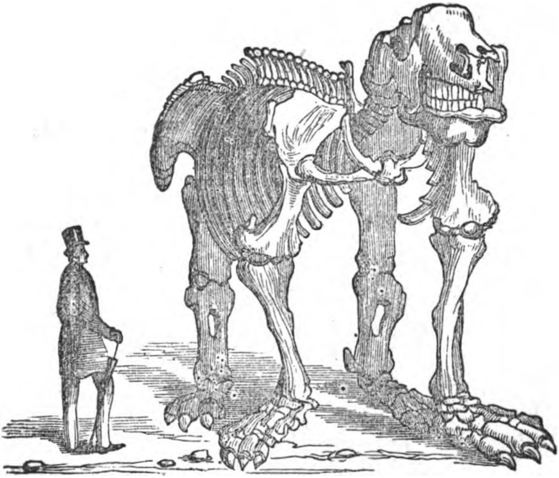
After these came the "Sea Mammals"—the dolphins, whales, seals, and walruses.

We next find new pachyderms more like the elephant, rhinoceros, and the hippopotamus; then follow traces of cud-chewing animals resembling the oxen, deer, and camels.

And then—but oh, that I could find time to describe to you the monsters who succeeded these. The wonderful **Mastodon** that lived in America. His body was twelve feet high—that is, as high as two tall men—and very long, also—with tusks heavier than an elephant's, and a jaw-bone that actually weighed *sixty-three pounds*.

And the great **Mammoth**, too, who lived near the time when Adam was made. This animal was one of the elephant tribe; and you may read in a book how many frozen mammoths have been dug out of the frozen lands of Asia, and you may learn how much ivory is procured from their tusks every year.

But the great monster—the character who will please you best, is the giant **Megatherium**. He was a *stupendous* sloth! You have seen pictures of the sloths of South America, who live *under* the branches of the tropical trees, and feed on their leaves.



The Megatherium.

But there was no tree large enough for him to climb. He, with his mountainous body, with a thigh bone three times as thick as the elephant's, with feet *a yard long*, with a coat of armour of solid bone. He, whose heavy tread might shake the hills—he would not climb a tree! With his great feet and claws he would dig round it, and grasping its enormous trunk he would shake it backwards and forwards until he uprooted it from the earth; and then Nature heard a *crash!* But in time all these monsters — these lords of the earth passed away—so also did the great opossums, kangaroos, and many others. Another day, when you have learned other things, we will learn more of these animals, and will *study* Geology.

In the *Diluvium* have been found remains of hyenas, tigers, bears, rabbits, mice, pigeons, ducks, and partridges, and at last the bones of the monkey, the nearest animal to man.

So in the course of time, the vegetables, the minerals, and the animals were all ready to meet the highest animal, *Man.* I have tried to imagine for you a picture of the earth as God had prepared it to receive him, which you shall see when we have our next lesson. And now, dear children, while we still go on with our Geography lesson, we will next month begin the history of man himself from God's holy word.

HARVEST HOME.

HARK! from woodlands far away,
Sounds the merry roundelay;
Now across the russet plain
Slowly moves the loaded wain.
Greet the reapers as they come—
Happy, happy harvest home!

Never fear the wintry blast,
Summer suns will shine at last!
See the golden grain appear,
See the produce of the year.
Greet the reapers as they come—
Happy, happy harvest home!

Children join the jocund ring,
Young and old come forth and sing;
Stripling blithe, and maiden gay,
Hail the rural holiday.
Greet the reapers as they come—
Happy, happy harvest home!

Peace and plenty be our lot,
All the pangs of war forgot;
Strength to toil, and ample store,
Bless Old England evermore.
Greet the reapers as the come—
Happy, happy harvest home!

PERSPECTIVE.

P. To-day I have made you a drawing of a book to copy. In the small book the lines incline to two vanishing points, but in the larger one—to the point of sight.

When you have copied these, you may then draw this book in four different positions. I have drawn one standing upright—another lying open. Let the other one be *half* open—and another shut,—in such a position that the lines may incline to vanishing points instead of the point of sight.

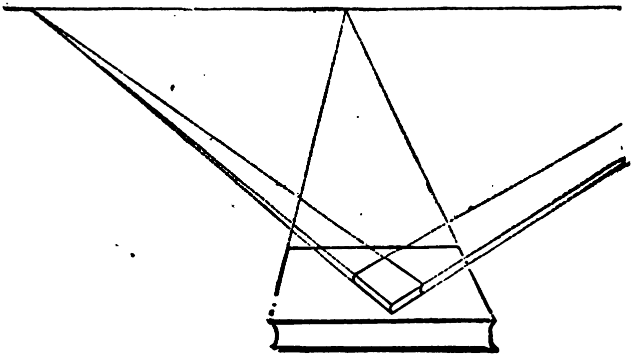
You may next take these four books in their different positions, place them together in a group, and then draw *the whole group.*

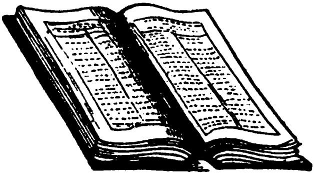
L. And, papa, will you be kind enough to make a larger drawing for us to-day? A book is, I think, so very easy to copy.

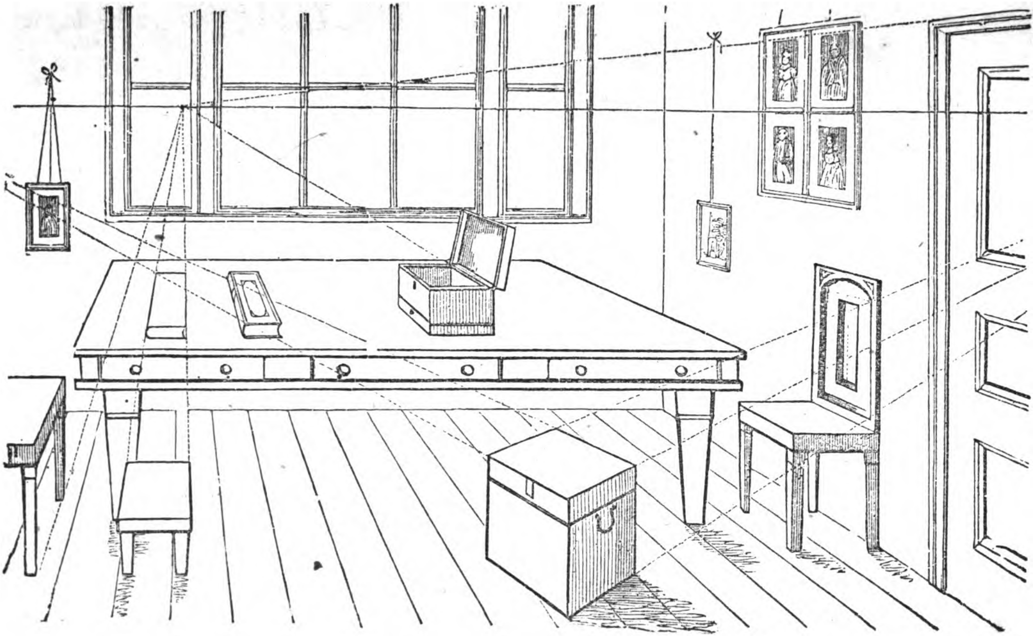
P. Very well. You have learned to draw chairs and stools—to-day you may come with me to my back office, and we will draw some of the plain furniture there.

This will be a very easy picture for you to draw—because, you see that in all the objects (except one) the side lines incline to the point of sight—which is that one?

W. This square box, or deed case, papa, in front—(in the *foreground,* I should say). Ah! I think we shall all like to copy this.







PLEASANT PAGES

FOR THE

26th Week. MONDAY. Moral Lesson.

ON SINGING PRAISES.

P. Willie, what do you intend to do with yourself in the holidays?

W. I don't know yet, papa. Ion and I are going to make a railway. To-morrow we shall have a ride on the pony; the next day we shall—shall—draw a little, perhaps—and read books—and then —— We shall have nothing particular to do after that. Indeed, I never exactly know what to do with myself in the holidays. We shall go and skate on the pond every day when it is frozen quite hard. Ada and Lucy are going to feed the robins.

Ion. Of course, we shall read every day—in the evenings.

P. Shall I tell you something else you may do?

Ion. Yes, papa, please.

P. Sing! I like to hear singing in the house—plenty of it; and now that the canary is dead, you may sing instead of him.

L. But we cannot sing as well as my poor bird.

P. Indeed, dear Lucy, you can—much better; for here is a difference:—you can sing *praises!* A canary only sings to himself—you can sing to *God!* And oh! who would be able to sing to God and *not do it!*

Ion. I should like to do that; and Lucy will play the songs on the piano, if you will write some notes for us, papa. Will you?

P. Yes. I have written you some tunes—there is a hymn about the "Children of Jerusalem," and another about Children of Heaven, and others to teach you how to praise God.

Ion. And I tell you what else I should like, papa, now we are at the end of the year. I should like a song for each part of it, a song for *Spring*, another for *Summer*, another for *Autumn*, and one for the *Winter*, so that we could always have a song for every season.

W. And then when we go out to *parties* after Christmas, we shall sing some *sense*, instead of nonsense. But, papa, where will you get all the tunes from?

P. I have plenty of songs. Don't you remember that I once printed on the wrapper of "Pleasant Pages" something about the GLASGOW TRAINING-SCHOOL SONG BOOK?*

W. Yes, papa, you said that it was a very good book.

P. Well, the gentleman whom that work belongs to, says that he will let us print some of his songs in our book, and then people will see what pleasant songs they are.

W. As "specimens," I suppose?

P. Yes. And I have copied a song from Mr. Curwen's *School Songs*, and from the *Juvenile Harmonist*,—these are also nice books.

L. Have not you made any yourself, papa?

P. No, I cannot make songs very well, but you know I can *sing*, and so can you, so every evening we will practise these tunes. It is a good thing to sing praises.

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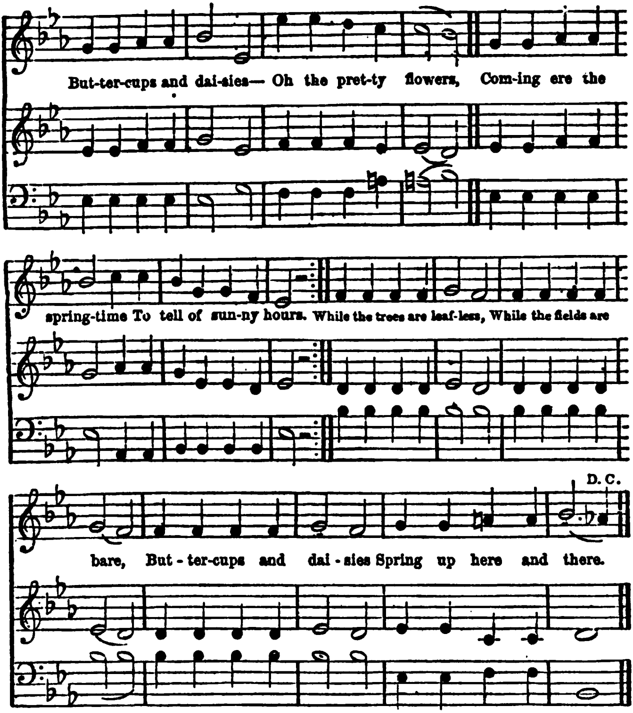
* A beautiful collection of songs, moral pieces, rounds, &c., published by HAMILTON, Glasgow; SIMPKIN and MARSHALL, London, price 3s. 6d.

SEASON SONGS—(SPRING SONG.)


But-ter-cups and dai-sies— Oh the pret-ty flowers, Com-ing ere the
spring-time To tell of sun-ny hours. While the trees are leaf-less, While the fields are
D. C.
bare, But-ter-cups and dai-sies Spring up here and there.

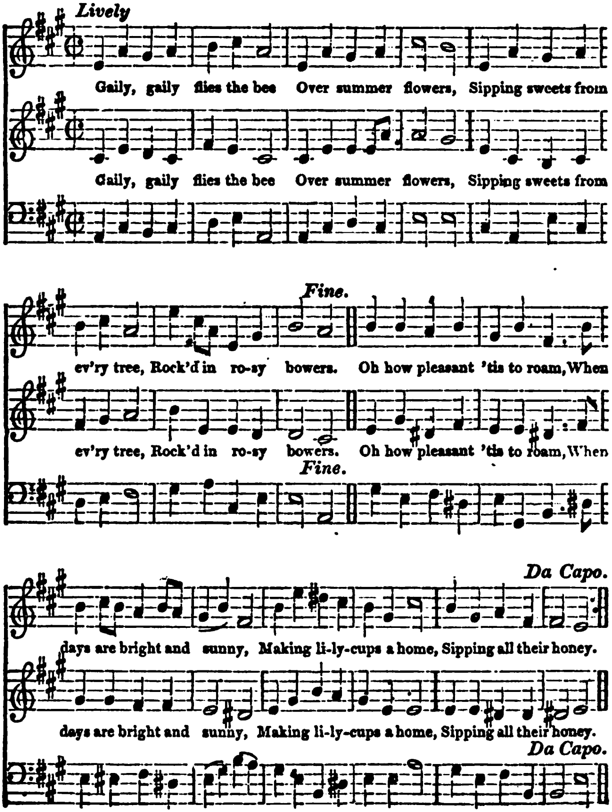
Ere the snowdrop peepeth;
Ere the crocus bold;
Ere the early primrose
Opes its paly gold,
Somewhere on a sunny bank
Buttercups are bright;
Somewhere 'mong the frozen grass
Peeps the daisy white.
Buttercups and Daisies, &c.

Little hardy flowers,
Like to children poor,
Playing in their sturdy health
By their mother's door:
Purple with the north wind,
Yet alert and bold,
Fearing not and caring not,
Though they be a-cold!

What to them is weather!
What are stormy showers!
Buttercups and daisies
Are these human flowers;
He who gave them hardship
And a life of care,
Gave them likewise hardy strength,
And patient hearts, to bear.

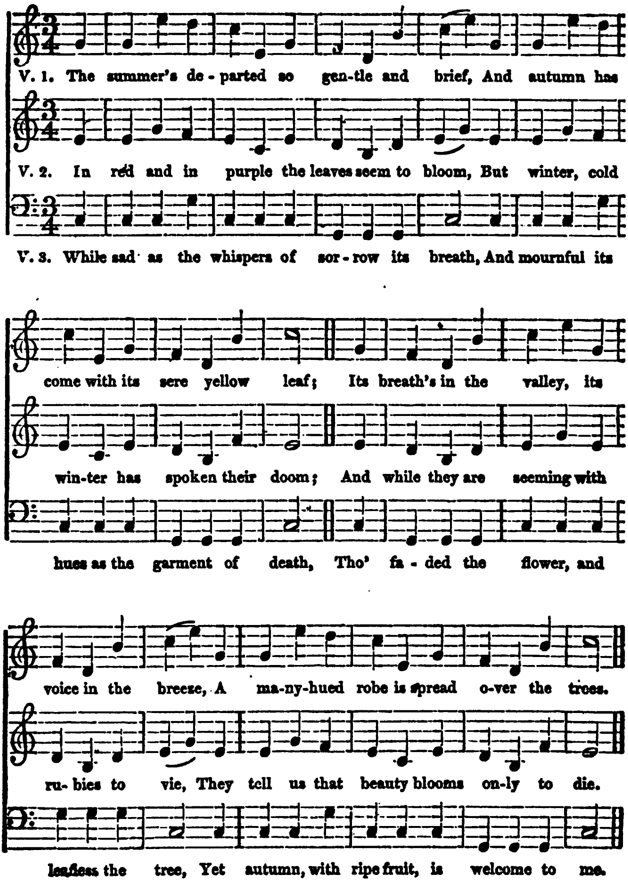
Welcome yellow buttercups,
Welcome daisies white,
Ye are in my spirit
Vision'd, a delight!
Coming, ere the spring-time,
Of sunny hours to tell—
Speaking to our hearts of Him
Who doeth *all things well.*
Buttercups and Daisies, &c.

SONGS FOR THE SEASONS—(Summer Song).

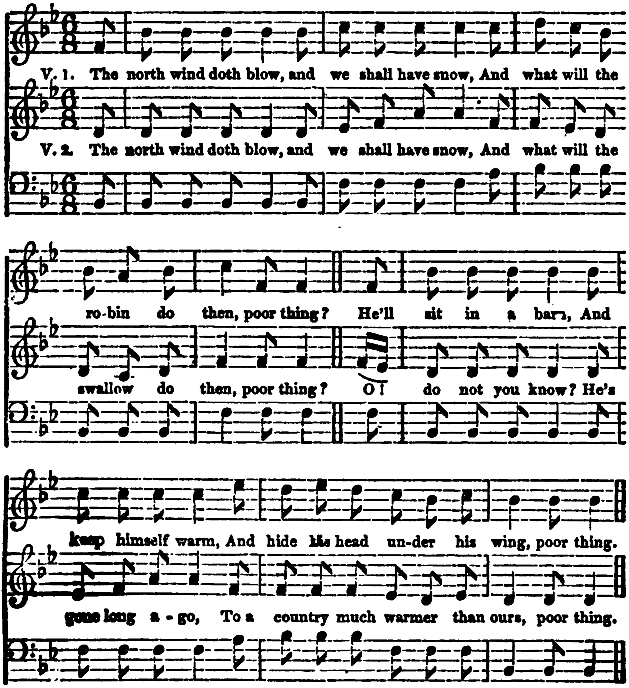

Lively
Gaily, gaily flies the bee Over summer flowers, Sipping sweets from
Gaily, gaily flies the bee Over summer flowers, Sipping sweets from
Fine.
ev'ry tree, Rock'd in ro-sy bowers. Oh how pleasant 'tis to roam, When
ev'ry tree, Rock'd in ro-sy bowers. Oh how pleasant 'tis to roam, When
Fine.
Da Capo.
days are bright and sunny, Making li-ly-cups a home, Sipping all their honey.
days are bright and sunny, Making li-ly-cups a home, Sipping all their honey.
Da Capo.

Thus may we, from day to day,
While our time is flying,
Gather knowledge carefully,
To improve, keep trying.
May we, then, in youth or age,
From vice and sloth keep turning,
And from wisdom's "*Pleasant Page*"
Sip the sweets of learning.

SONGS FOR THE SEASONS—(AUTUMN SONG).


V. 1. The summer's de - parted so gen-tle and brief, And autumn has
V. 2. In red and in purple the leaves seem to bloom, But winter, cold
V. 3. While sad as the whispers of sor - row its breath, And mournful its
come with its sere yellow leaf; Its breath's in the valley, its
win-ter has spoken their doom; And while they are seeming with
hues as the garment of death, Tho' fa - ded the flower, and
voice in the breeze, A ma-ny-hued robe is spread o-ver the trees.
ru- bies to vie, They tell us that beauty blooms on-ly to die.
leafless the tree, Yet autumn, with ripe fruit, is welcome to me.

SONGS FOR THE SEASONS—(WINTER SONG).


V. 1. The north wind doth blow, and we shall have snow, And what will the ro-bin do then, poor thing? He'll sit in a barn, And keep himself warm, And hide his head un-der his wing, poor thing.
V. 2. The north wind doth blow, and we shall have snow, And what will the swallow do then, poor thing? O! do not you know? He's gone long a-go, To a country much warmer than ours, poor thing.

The north wind doth blow, and we shall have snow,
And what will the honey-bee do, poor thing?
    In his hive he will stay,
    Till the cold's pass'd away,
And then he'll come out in the spring, poor thing.

The north wind doth blow, and we shall have snow,
And what will the dormouse do then, poor thing?
    Roll'd up like a ball,
    In his nest snug and small,
He'll sleep till warm weather comes back, poor thing,

The north wind doth blow, and we shall have snow,
And what will the children do then, poor things?
    When lessons are done,
    They'll jump, skip, and run,
And play till they make themselves warm, poor things.

MAMMALS.

ORDER 1. TWO-HANDED ANIMALS.

(Bimana—Concluded.)

Ion. We noticed two physical distinctions last week.

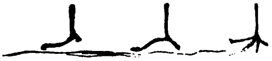
First, *The extremities of man's fore limbs are* HANDS, *so that mankind are called* TWO-HANDED ANIMALS.

Second, *The body of man has an* UPRIGHT POSTURE.

But I have been thinking, papa, that some of the *monkeys* have an upright position.

P. They seem to be able to stand upright, but it has been found that they cannot stand firmly—it is not their natural position.

We will notice the extremities of your hind limbs. I have made two or three lines to show the difference between an ape's foot, and a man's.



In the ape's foot, the heel bone is very short, so that he is not able to rest upon it easily; and if you gave him a blow he would fall backward.

But, in the foot of man, you can see that the heel bone is much longer—this bone, with the instep and toes, forms an arch under the foot for the leg to rest upon. Thus your body and legs rest firmly upon two arches.

W. I have often noticed the hollow place in the sole of my shoe. And the bird, papa, stands upon two legs; its foot has three toes in the front, and one behind, which serves for a heel, I suppose.

Ion. Yes, its toes seem to form a "*stand*" for it, like the stand of our tea-urn.

L. So we have noticed two things respecting our *hind* limbs. I think that, in our description, we ought to mention them before the "upright position"—they are not the *effect* of that position.

W. No, certainly; they are the *cause.* They enable us to be upright.

Ion. And then, the remarks on the hind limbs should come *after the fore limbs.* We should have finished describing our limbs, before beginning to notice our body; so we will call this part "secondly."

Secondly, *The hind limbs are longer than the fore limbs; and, in the extremities (or feet), the heel-bone forms an arch for the legs to rest upon firmly.*

Now for the "thirdly."

Thirdly, *Therefore, man's body has naturally an* UPRIGHT POSTURE.

That will do much better.

W. Yes, I like "making out" lessons better than anything else. Now that we have noticed our limbs and body, the *head* comes next. Let us look at papa's head.

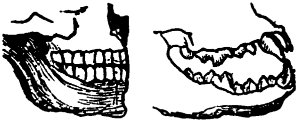
L. I notice its *position* first. The lower animals have the head at one *end* of the spine; but papa's head is *on* his spine—it rests upon the top of it.

Ion. And I notice something else. In the lower animals, the nose and mouth are close together; but in papa's face, his nose projects beyond his mouth.

P. Yes, the nose and mouth of an animal form what is called a *muzzle.*

If our dog Fan had a face like ours, when she brought her mouth to the ground to pick up anything, her nose and chin would be in the way—they would touch the ground.

Let us notice this difference. If you look at these little drawings, you will see that the teeth of the lower animals are placed *obliquely*, so that they project beyond the jawbone, and some are longer than others.



Look next at the teeth of the man.

W. They are perpendicular, papa.

P. Instead of "perpendicular," say "vertical;" they have a vertical position.

Now, as man's teeth are upright, they do not project in front of the jaw-bones; and thus the end of his lower jaw-bone forms *a chin.*

We may therefore say of the lower animals—

(*a*) Their teeth project beyond the jaw-bones, and they have *no chin.*

(*b*) But, as the teeth and lips "protrude," the mouth joins the nose, and forms *a muzzle.*

(*c*) This muzzle enables them to seize their food without the whole of the face touching it.

L. And we may say of a man—

Fourthly, *Man's* head is placed on the top of his spine. As he does not seize his food with his mouth, but carries it up with his hands (*a*), his teeth are vertical, so that his mouth and lips do not protrude (*b*); his chin and nose therefore project beyond his mouth.

Ion. Now, we have noticed your three principal parts, papa—

Your Limbs,
Body, and
Head.

I think that is all.

P. There are other differences yet. Shall I make a fifthly, a sixthly, and a seventhly for you?

L. Yes, dear papa, please.

P. But I am afraid that you will forget so long a lesson. After we have printed it, you had better read it over three or four times, for it will be long enough for two lessons.

Now, then, for the "fifthly." Man's superiority over the lower animals consists in *his mind.* We must not expect to find his body superior to theirs in every respect.

Suppose a man walking in a hot desert of Africa were to meet a grim lion!

L. Then the lion would kill him!

P. What, kill his master!

W. Yes. It would be very bad manners; but he would do it.

P. But if man is the lord of the creation why would he *let* him do it?

L. He could not help it, papa. The lion is stronger than he is.

W. And the lion is bigger than he is.

Ion. And the lion has always got his "fighting things" with him—the weapons he carries about with him are his teeth and claws.

P. Thus you see three more differences at once.

Fifthly, Man is inferior to some of the lower animals in size.

Sixthly, He is inferior in strength.

Seventhly, He is inferior in *natural* means of defence. Yet the lions or other animals do not often kill man. He does not require superior strength of body. The power of man is in his mind; and, you see that he is the master after all.

L. Yes; for he can make *artificial* means of defence, such as the gun.

See how he uses his mind. As he is inferior in size and strength to the wild animals, he uses the strength (and the superior *senses*) of dogs to hunt and fight them. When he and his dogs want to sleep in the desert, he lights a large fire there, so that the animals are afraid. (I might have told you, when speaking of man's mental distinctions, that he is the only animal who knows what fire is. The monkeys are *not afraid* of it, they are pleased at it, and will grin, and chatter, and dance round their warm friend—but when they see it burning out—dying, they begin to cry, and never think of feeding it with wood. It is a merciful thing that God has not taught them to do so.) Again, because man must sometimes attack these animals himself, his mind has taught him to make *many* artificial means of defence, such as the bow and arrows, javelin, lance, dagger, and gun.

I will now point out three more distinctions for you, so as to complete the lesson.

Suppose that I and a lion were to become good friends, and walk along the desert together.

The lion would begin—"I say, friend, don't you find it rather warm in these parts, seeing you were born in a colder country?"

"No," I should say, "I'm wearing a thin white coat and trousers, and do not mind it. I shall change my clothes shortly, and go to the North Pole, to see the old white bear. I can live in any climate under the sun." That is one difference.

"And then, sir lion, I am going to live in the great northern forests on the continent, for the summer. Come and take a trip with me up there, it is not at all cold! There are not so many animals in those parts, but I know a country where there are magnificent fields of corn, and plenty of *salt* to eat with it!"

"What! feed a lion on corn and salt. I—I—I would not eat that. I can't *live* on anything but flesh."

"Then, sir lion, *I* can. I can live entirely on vegetable diet, or I can live only on animal food. I can eat *back-boned animals*, such as sheep, chicken, salmon, and turtle; or *jointed animals*, such as the lobster; or *soft-bodied animals*, such as the oyster. I can use *many parts* of the vegetables for my food—the *leaves* of the tea-tree, the *seeds* of the coffee and cocoa-trees—I could live entirely on the seeds of one plant, called the *corn plant*—on *fruits*, such as cocoa-nut, oranges, and figs; the *pith*, such as sago; the *juice* of sugar-cane; the *root*, such as arrow-root, ginger, onions, and carrots; even the *bark* of the cinnamon-tree, and the *flower-buds* of the clove shrub." So, then, you have my eighth and ninth differences. Listen:

Eighthly, Man is adapted for all climates.

Ninthly, Man is adapted for all kinds of food.

Ion. Thank you, papa. Now, will you find us a *tenth* difference?

P. Yes; and that shall be the last one. The tenth and last difference is a very important one. Did you ever see a scarlet runner growing twice the height of the wall in a single summer?—but, when the winter comes, *it dies.* The hollyhock grows like a slim giant, and falls down before the sharp frost, while the oak—the old oak—adds a very small piece to its size every year; it is hundreds of years in coming to perfection, and takes hundreds more years in decaying; it lives a very, very long time. The cat is full grown in two years; but cats do not live to the age of *twenty*. A horse is full grown in a few years, but his greatest age will be thirty or forty. But man —he grows very slowly, and is a long time becoming perfect. He has to depend on his mother entirely for the first two years, and to depend on his parents for food for many years after; he is not "full grown" until he is twenty years old. He has a slow growth, therefore—what?

W. Therefore he lives longer, I should say.

L. And therefore, also, he is more perfect.

P. You may see it to be *a general rule*. The vegetable or animal that has a slow growth, becomes more perfect, and lives longer. Men, who grow so slowly, live longer than other animals; they live until they are 70 or 80 years old, and have even reached the age of 100 or 150 years.

W. I should like, papa, to count up these ten physical distinctions, before we make up the lesson. We shall remember them better.

The body of man differs from those of the lower animals, because—

1. His fore limbs have extremities, called hands.
2. His hind limbs are longer than the other pair, and the extremities have a long heel bone, which forms part of an arch for the body to rest upon.
3. His body has an upright posture.
4. His head is placed on the top of his spine, and his teeth are placed vertically, so that his chin and nose project beyond his mouth.
5. He is inferior to many of the lower animals in strength.
6. He is inferior to many in size.
7. He has inferior *natural* means of defence.
8. He is adapted to live in all climates.
9. He is adapted to eat all kinds of food.
10. He grows more slowly, so that he becomes more perfect, and lives a much longer life.

Lesson 14. MAMMALS. ORDER 1. TWO-HANDED ANIMALS. (*Bimana.*)

Man is known from the lower animals by many important distinctions.

1st, *His mind has greater powers of Reasoning.*

2nd, *He has not always more power of Remembering.*

3rd, *Not always more power of Perceiving—but*

4th, *Greater power of Conceiving.*
5th, „ *Imagining*
6th, „ *Comparing*
7th, „ *Judging.*
8th, „ *Generalizing.*
9th, „ *Speech (called Language).*

10th, *And, above all, he has an* IMMORTAL SOUL, *so that he may love and serve* GOD, *and dwell with him for ever.*

11th, HIS BODY *has fore limbs with extremities, called hands.*

12th, *Its hind limbs have feet with a long heel bone, and an arched sole.*

13th, *It has an upright posture.*

14th, *His head is on the top of his spine, and he has vertical teeth.*

15th, *He is inferior to many animals in size.*

16th, *Inferior in strength.*

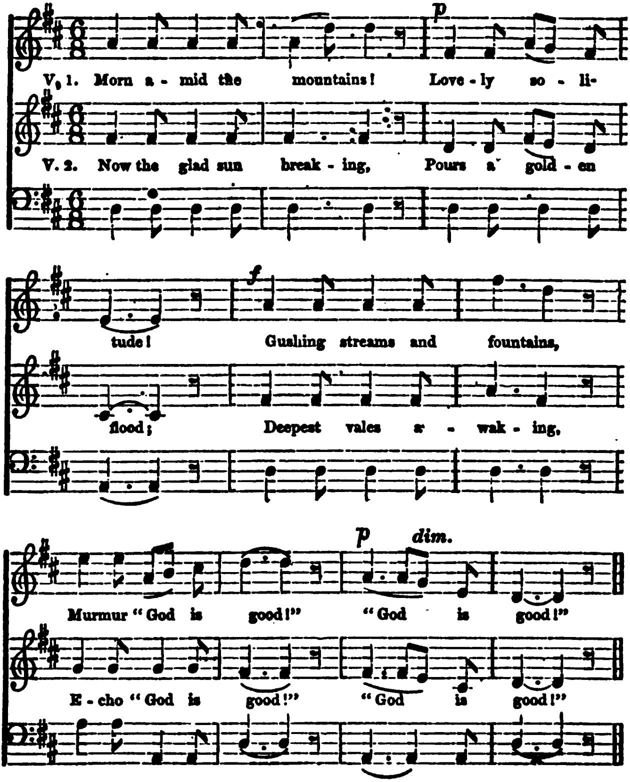
17th, *Inferior in means of defence.*

18th, *Adapted to all kinds of food.*

19th, *Adapted to all climates.*

20th, *And he has a slow growth, so that he becomes more perfect, and lives a longer life.*

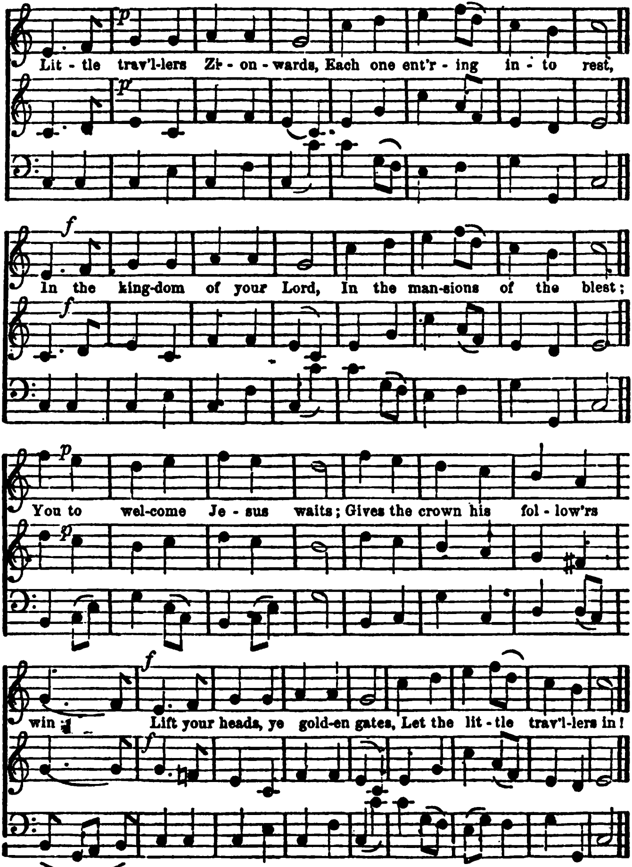
MORN AMID THE MOUNTAINS.


p
V. 1. Morn a - mid the mountains! Love - ly so - li-
V. 2. Now the glad sun break - ing, Pours a golden
tude! Gushing streams and fountains,
flood; Deepest vales a - wak - ing,
f
p dim.
Murmur "God is good!" "God is good!"
E - cho "God is good!" "God is good!"

Hymns of praise are ringing,
Through the leafy wood;
Songsters sweetly singing,
Warble "God is good!"

Wake and join the Chorus,
Man, with soul endued!
He whose smile is o'er us,
God, our God, is good!

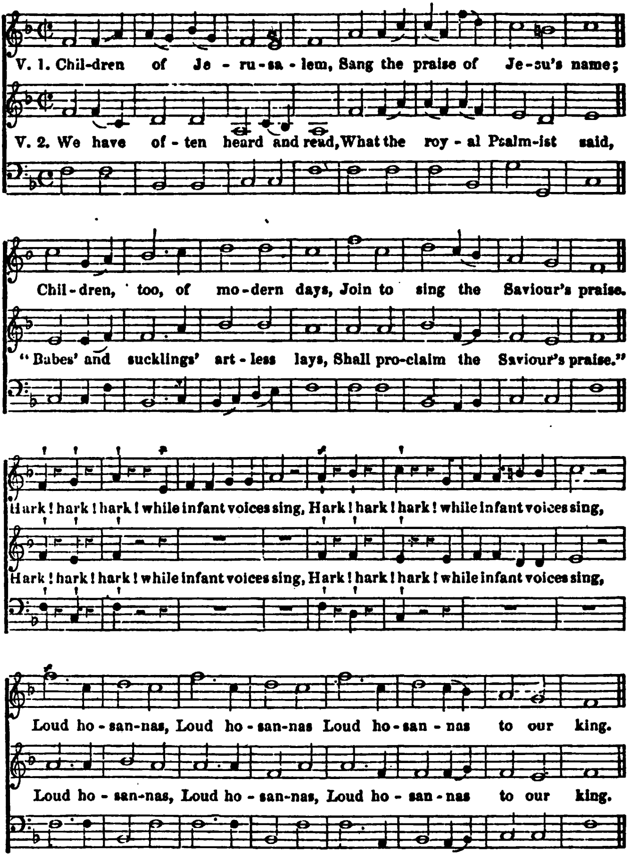
LITTLE TRAVELLERS ZIONWARD.


p
Lit - tle trav'l-lers Zi - on - wards, Each one ent'r - ing in - to rest,
f
In the king-dom of your Lord, In the man-sions of the blest;
p
You to wel-come Je - sus waits; Gives the crown his fol - low'rs
f
win: Lift your heads, ye gold-en gates, Let the lit - tle trav'l-lers in!

Who are ye whose little feet,
Pacing life's dark journey thro',
Now have reach'd that heav'nly seat,
Ye have ever kept in view?
"I from Greenland's frozen land"
"I from India's sultry plain,"
"I from Afric's barren sand,"
"I from Islands of the main"

"All our earthly journey past,
Ev'ry tear and pain gone by;
Here together met at last,
At the portals of the sky;"
Each the welcome word awaits,
Conq'rors over death and sin;
Lift your heads, ye golden gates,
Let the little trav'llers in!

CHILDREN OF JERUSALEM.


V. 1. Chil-dren of Je - ru-sa - lem, Sang the praise of Je-su's name;
V. 2. We have of - ten heard and read, What the roy - al Psalm-ist said,
Chil-dren, too, of mo-dern days, Join to sing the Saviour's praise.
"Babes' and sucklings' art - less lays, Shall pro-claim the Saviour's praise."
Hark! hark! hark! while infant voices sing, Hark! hark! hark! while infant voices sing,
Hark! hark! hark! while infant voices sing, Hark! hark! hark! while infant voices sing,
Loud ho - san-nas, Loud ho - san-nas Loud ho - san - nas to our king.
Loud ho - san-nas, Loud ho - san-nas, Loud ho - san - nas to our king.

We are taught to love the Lord,
We are taught to read his word,
We are taught the way to heaven,
Praise for all to God be given.
Hark! hark, &c.

Parents, teachers, old and young,
All unite to swell the song:
Higher and yet higher rise,
Till hosannas reach the skies!
Hark! hark, &c.

THE TRAVELLER THROUGH ENGLAND.

York (*Concluded*).

Dear Children,—

"Come, Henry," said my aunt, after dinner, "come and see our dear old Minster!"

"You seem very proud of your Minster!'"

"Indeed we are. Why, the first time it was burned, I remember when the poor shoemaker brought all his earnings—*one hundred pounds*—and offered to give up every penny of it to help to pay for rebuilding. They soon collected £50,000!"

"Was it *burned*?"

"Yes, but I cannot tell you now. Come and see it!"—so we set off.

"What a number of *old* churches there seem to be, aunt!"

"Yes, Henry, we have twenty-three churches, besides the chapels and Quakers' meeting-houses; but look! here we are!" and as I looked up, a strange feeling ran through me—so large, so stately, and beautiful, was the building, with such a solemn, silent look. "This," said my aunt—"this, Henry, is York Minster!" But I cannot give you any idea of it with words. I have for the last few days been drawing pictures of it, which I dare say you will see. Oh, if you could but look at the two western towers, the east window, the splendid south transept, the long rows of arches inside, the wonderful screen, the organ, the Ladye chapel, and all the beautiful tombs! The only thing I did not like was the presence of the verger (one of the men who attend in the cathedral). He passed so rapidly from one place to another, that I whispered to my aunt, "I wish he would leave us by ourselves. I should like to remain and look about. I could stop here all day!"

"Oh," said my aunt, "he would be afraid to leave you here; you might do as *Jonathan Martin* did."

"Who was he?"

"He was a relation (brother, I think) of the great painter *Martin*; but, listen to the verger!

"*This, sir, is the tomb behind which the fanatic,* Martin, *hid himself after the Divine service in this cathedral, on the 2nd February,* 1829, *at half-past*——"

"Thank you; we know Martin's history," said my aunt. And on our way home, she told me how this insane man thought it was wrong to build so fine a temple to God, and that he would destroy it. So he hid himself, and when quite alone, he kindled a fire, and set the wood-work in a blaze. The whole would have been destroyed but that every one made great exertions; and by sawing through the beams of the roof, and by other means, the fire was stopped. Ah," said my aunt, "when I saw our beautiful Minster in flames, I cried like a child, and so did many others. Ask any one (except the Lincolnshire folk), and they will tell you it is the finest piece of Gothic architecture in England. Ah! the finest in Europe! Ah! *the finest in the*——"

"No, no, dear aunt," I said, "you really think too highly of it."

"Since the time of Martin, York Minster has again suffered from a fire, caused by accident. It has been a most unfortunate cathedral. The *second* Minster that was built, was burnt down in the year 741; the *third* Minster was burned by the Normans, in 1069;

the *fourth* one by accident, in 1137; and this one has been burned twice.

The next day, Peg and I left York, to go and see the great western towns of Yorkshire. These are the principal towns in England for the manufacture of woollen goods; the largest one is called *Leeds*.

At Leeds I remained four days, and saw the great cloth halls, where the greatest part of the cloth made in England is sold. On Tuesday morning I had been standing on the bridge, and noticing the factories and warehouses on the banks of the river Ayre, and was then walking down the *Briggate*, which is the principal street in Leeds, when I heard the bell ring for the opening of the *coloured cloth* hall. I ran for some distance to the western part of the town, where I found in the streets many carts of the country people who had brought cloth for sale. Here I saw *the hall*, a large square building, and I entered it with the crowd. It is truly a large place—it is as long as a street with twenty-eight houses, and as wide as a street with twelve houses. Indeed I found that it was divided into six "arcades," or streets; one was called "Change Alley," and another, "Cheapside." While I was looking at the great building, the people were putting the place in order, and then I noticed that each of these streets contained two long rows of stalls; these stalls were covered with the new cloth, and at each one stood a man waiting to sell it.

I tried to count the stalls, but it was too great a task, I was told that they are about two thousand in number. After I had for a long time watched the people making bargains, the bell rang again, and suddenly all business was stopped. Everybody was obliged to leave or else pay some money for a fine. I then went to see the *white cloth* hall, which is also a large building, in the eastern district.

At Leeds I not only saw these two famous cloth halls, but entered some of the great factories, and saw the bales of wool from other parts of England; from Germany, Spain, and Australia. I saw men, children, and machines at work—picking the wool, washing, oiling, and carding, or combing it. It was also spun, and woven, and dyed; but you shall hear of all these things another day, when I send you my letters on *trades*.

Besides Leeds, there are other large towns in the west of Yorkshire which are noted for woollen goods. The five principal towns for wool are—

LEEDS,
BRADFORD,
HALIFAX,
HUDDERSFIELD, and
WAKEFIELD.

You would be surprised to see how much cloth of all kinds is made in these places. Formerly the principal cloth-making towns in England were those in the southern counties, but the power which the people get to work their machines from the streams and rivers, the power of the steam-engines, too, and the industry of the Yorkshire people, have made these towns famous.

There are also large iron-foundries in these parts, especially at *Bradford*.

After reaching this district, I went to see a town called *Sheffield*, which is noted for knives, forks, scissors, tools of all kinds, and cutlery of all kinds, which you shall hear of one day.

I next visited *Pontefract*. You

remember what the gentleman at *Hull* said about Pontefract Castle. I saw here great quantities of liquorice-root growing.

My next visit was to *Doncaster*, a town on the river *Don*, noted for its horse-races. I am stopping here now, and am just going to make a good breakfast of Yorkshire *ham*. I expect it will be very nice, for the waiter has just told me that Yorkshire is noted for its hams, and also for its fine horses.

These particulars you will see I have written in the notes under the head "Surface."

Good bye, dear children.

Your affectionate friend,

HENRY YOUNG.

P.S. You will see that I have pinned the notes on to my letter.

YORKSHIRE.

(Size)—*Yorkshire is the largest county in England, occupying one-ninth of England.*

(Boundaries)—*It is bounded on the north by* DURHAM—*on the east by the* NORTH SEA—*on the west by* LANCASHIRE—*and on the south by* CHESHIRE, DERBY, NOTTINGHAM, *and* LINCOLN.

(Soil)—*In the eastern parts of Yorkshire the soil is rocky, and there are marshes for cattle. The middle is a fertile valley yielding corn and flax. On the west, there is much romantic scenery.*

(Surface)—*Yorkshire has three large divisions, called Ridings. The county is noted for its fine old abbeys, for its breed of horses, and its hams. The most remarkable places are,* PONTEFRACT CASTLE, TOWTON, WAKEFIELD GREEN, *and* MARSTON MOOR, *which we may read of in history.*

(Rivers)—*The principal rivers are the* HUMBER, *and the* OUSE, *with its tributaries, the* NID, *the* WHARFE, *the* DERWENT, *the* AYRE, *the* CALDER, *and the* DON —*these rivers are spread over the county like the veins of a great leaf.*

(Capital and Towns)—*The capital is* YORK—*so called from two Saxon words,* Ure, *the Ouse, and* Wic, *a village. This ancient city was once called "The Capital of the North." Part of its walls and gates still remain. It is celebrated for its beautiful Minster, and for its numerous ancient churches.*

The other remarkable towns are, WHITBY, *near where Captain Cook lived;* SCARBOROUGH, *noted for mineral waters; and* HULL, *the great port for the northern shipping. In the West Riding are,* LEEDS, BRADFORD, HALIFAX, HUDDERSFIELD, *and* WAKEFIELD, *noted for their cloth manufactures, and iron.*

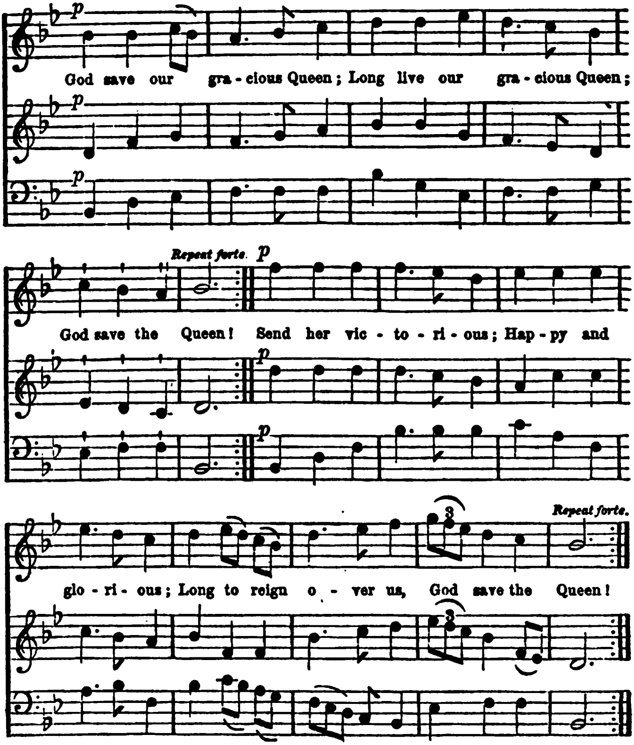
SHEFFIELD, *noted for its cutlery;* PONTEFRACT, *noted for its liquorice; and* DONCASTER, *noted for its horse-races.*

EPITAPH ON AN INFANT.

ERE sin could blight or sorrow fade,
Death came with friendly care,
The opening bud to heaven conveyed,
And bade it blossom there.

COLERIDGE.

GOD SAVE THE QUEEN.


p
God save our gra - cious Queen; Long live our gra - cious Queen;
Repeat forte.
God save the Queen! Send her vic - to - ri - ous; Hap - py and
glo - ri - ous; Long to reign o - ver us, God save the Queen!
Repeat forte.

Thy choicest gifts in store,
On her be pleased to pour,
Long may she reign!
May she defend our laws,
And ever give us cause
To sing, with heart and voice,
God save the Queen!

God bless our native land,
May Heav'n's protecting hand
Still guard our shore!
May peace her power extend,
Foe be transform'd to friend,
And Britain's rights depend
On war no more!

May just and righteous laws
Uphold the public cause,
And bless our Isle!
Home of the brave and free,
The land of liberty,—
We pray that still on thee
Kind Heav'n may smile!

And not this land alone,
But be thy mercies known
From shore to shore!
Lord, make the nations see
That men should brothers be,
And form one family
The wide world o'er.

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